GRI STANDARDS

GRI 14: Mining Sector 2024

14

EFFECTIVE DATE: 1 JANUARY 2026

SECTOR STANDARD

GRI 14: Mining Sector 2024

Sector Standard

Effective Date
This Standard is effective for reports or other materials published on or after 1 January 2026.

Responsibility
This Standard is issued by the Global Sustainability Standards Board (GSSB). Any feedback on the GRI Standards can be submitted to gssbsecretariat@globalreporting.org for the consideration of the GSSB.

Due Process
This Standard was developed in the public interest and in accordance with the requirements of the GSSB Due Process Protocol. It has been developed using multi-stakeholder expertise, and with regard to authoritative intergovernmental instruments and widely held expectations of organizations relating to social, environmental, and economic responsibilities.

Legal Liability
This document, designed to promote sustainability reporting, has been developed by the Global Sustainability Standards Board (GSSB) through a unique multi-stakeholder consultative process involving representatives from organizations and report information users from around the world. While the GRI Supervisory Board, Management Board, and GSSB encourage the use of the GRI Sustainability Reporting Standards (GRI Standards) and related Interpretations by all organizations, the preparation and publication of reports based fully or partially on the GRI Standards and related Interpretations are the full responsibility of those producing them. Neither the GRI Supervisory Board, Management Board, GSSB, nor Stichting Global Reporting Initiative (GRI) can assume responsibility for any consequences or damages resulting directly or indirectly from the use of the GRI Standards and related Interpretations in the preparation of reports, or the use of reports based on the GRI Standards and related Interpretations.

Copyright and trademark notice
This document is copyright-protected by Stichting Global Reporting Initiative (GRI). The reproduction and distribution of this document for information and/or use in preparing a sustainability report is permitted without prior permission from GRI. However, neither this document nor any extract from it may be reproduced, stored, translated, or transferred in any form or by any means (electronic, mechanical, photocopied, recorded, or otherwise) for any other purpose without prior written permission from GRI.

Global Reporting Initiative, GRI and logo, GSSB and logo, and GRI Sustainability Reporting Standards (GRI Standards) and logo are trademarks of Stichting Global Reporting Initiative.

© 2024 GRI. All rights reserved.

ISBN 978-90-8866-140-2

Content

Introduction **5**
Sector this Standard applies to **6**
System of GRI Standards **7**
Using this Standard **8**
1. Sector profile **10**
Sector activities and business relationships **10**
The sector and sustainable development **11**
2. Likely material topics **15**
Mine-site disclosure **15**
Topic 14.1 GHG emissions **17**
Topic 14.2 Climate adaptation and resilience **19**
Topic 14.3 Air emissions **21**
Topic 14.4 Biodiversity **23**
Topic 14.5 Waste **25**
Topic 14.6 Tailings **28**
Topic 14.7 Water and effluents **30**
Topic 14.8 Closure and rehabilitation **32**
Topic 14.9 Economic impacts **36**
Topic 14.10 Local communities **38**
Topic 14.11 Rights of Indigenous Peoples **41**
Topic 14.12 Land and resource rights **43**
Topic 14.13 Artisanal and small-scale mining **45**
Topic 14.14 Security practices **47**
Topic 14.15 Critical incident management **49**
Topic 14.16 Occupational health and safety **51**
Topic 14.17 Employment practices **53**
Topic 14.18 Child labor **55**
Topic 14.19 Forced labor and modern slavery **57**
Topic 14.20 Freedom of association and collective bargaining **59**
Topic 14.21 Non-discrimination and equal opportunity **61**
Topic 14.22 Anti-corruption **63**
Topic 14.23 Payments to governments **65**

Topic 14.24 Public policy **68**

Topic 14.25 Conflict-affected and high-risk areas **70**

Glossary **72**

Bibliography **84**

Introduction

GRI 14: Mining Sector 2024 provides information for organizations involved in mining activities about their likely material topics. These topics are likely to be material for mining organizations on the basis of the sector's most significant impacts on the economy, environment, and people, including on their human rights.

GRI 14 also contains a list of disclosures for mining organizations to report in relation to each likely material topic. This includes disclosures from the GRI Topic Standards and other sources.

The Standard is structured as follows:

- Section 1 provides a high-level overview of the mining sector, including its activities, business relationships, context, and the connections between the United Nations Sustainable Development Goals (SDGs) and the likely material topics for the sector.
- Section 2 outlines the topics that are likely to be material for mining organizations and, therefore, potentially merit reporting. For each likely material topic, the sector's most significant impacts are described and disclosures to report information about the organization's impacts in relation to the topic are listed.
- The Glossary contains defined terms with specific meanings when used in the GRI Standards. The terms are underlined in the text and linked to the definitions.
- The Bibliography contains authoritative intergovernmental instruments and additional references used in developing this Standard, listed by topic. It also lists further resources that the organization can consult.

The rest of the Introduction section provides an overview of the sector this Standard applies to, an overview of the system of GRI Standards, and further information on using this Standard.

Sector this Standard applies to

GRI 14 applies to organizations undertaking any of the following:

- Exploration, extraction, including quarrying, and primary processing[1] of all types of minerals, metallic and non-metallic, except for oil, gas, and coal.[2]
- Support activities for mining, such as transport and storage, when integrated into the mining organization's core operations.
- Supply of specialized products and services to mining organizations, such as those provided by contractors for Engineering, Procurement, and Construction (EPC) and operational activities mentioned above.

This Standard can be used by any organization in the mining sector, regardless of size, type, geographic location, or reporting experience. The Standard is not designed to capture the impacts specific to the artisanal and small-scale mining (ASM) sector. However, this Standard does consider the impacts that mining organizations may have on ASM operators and the impacts they may be involved with through their business relationships, interactions, or co-location of their activities with ASM.[3]

The organization must use all applicable Sector Standards for the sectors in which it has substantial activities.

Sector classifications

Table 1 lists industry groupings relevant to the mining sector covered in this Standard in the Global Industry Classification Standard (GICS®) [5], the Industry Classification Benchmark (ICB) [3], the International Standard Industrial Classification of All Economic Activities (ISIC) [7], and the Sustainable Industry Classification System (SICS®) [6].[4] The table is intended to assist an organization in identifying whether *GRI 14* applies to it and is for reference only.

Table 1. Industry groupings relevant to the mining sector in other classification systems

CLASSIFICATION SYSTEM	CLASSIFICATION NUMBER	CLASSIFICATION NAME
GICS®	151040	Metals and Mining (excluding manufacturers of aluminum and steel, and metal recycling)
ICB	551020000	General Mining
	55102010	Iron and Steel (excluding manufacturers of steel and metal recycling)
	55102035	Aluminum (excluding manufacturers of aluminum and metal recycling)
	55102040	Copper (excluding smelters and metal recycling)
	55102050	Nonferrous Metals (excluding smelters and metal recycling)
	55103020	Diamonds and Gemstones
	55103025	Gold Mining (excluding smelters and metal recycling)
	55103030	Platinum and precious metals (excluding smelters and metal recycling)
ISIC	07	Mining of metal ores
	08	Other mining and quarrying
	099	Support activities for other mining and quarrying
SICS®	EM-3	Metals and Mining (excluding manufacturers of aluminum and steel, and metal recycling)

1 Primary processing can include, for example, milling, crushing, grinding, concentrating, and leaching to separate commercially valuable minerals from their ores. Further stages of processing, such as smelting, refining, and metal recycling, will be the subject of a separate GRI Sector Standard.

2 Oil and gas, and coal have dedicated Sector Standards available: *GRI 11: Oil and Gas Sector 2021* and *GRI 12 Coal Sector 2022*.

3 In this Standard, ASM is understood to comprise of formal or informal activities, often associated with simplified forms of mining, limited access to technology, and high labor intensity. ASM can include individual operators, families, and cooperatives involving up to hundreds or even thousands of miners.

4 The relevant industry groupings in the Statistical Classification of Economic Activities in the European Community (NACE) [1] and the North American Industry Classification System (NAICS) [2] can also be established through available concordances with the International Standard Industrial Classification (ISIC).

System of GRI Standards

This Standard is part of the GRI Sustainability Reporting Standards (GRI Standards). The GRI Standards enable an organization to report information about its most significant impacts on the economy, environment, and people, including impacts on their human rights, and how it manages these impacts.

The GRI Standards are structured as a system of interrelated standards that are organized into three series: GRI Universal Standards, GRI Sector Standards, and GRI Topic Standards (see Figure 1 in this Standard).

Universal Standards: GRI 1, GRI 2 and GRI 3
GRI 1: Foundation 2021 specifies the requirements that the organization must comply with to report in accordance with the GRI Standards. The organization begins using the GRI Standards by consulting *GRI 1*.

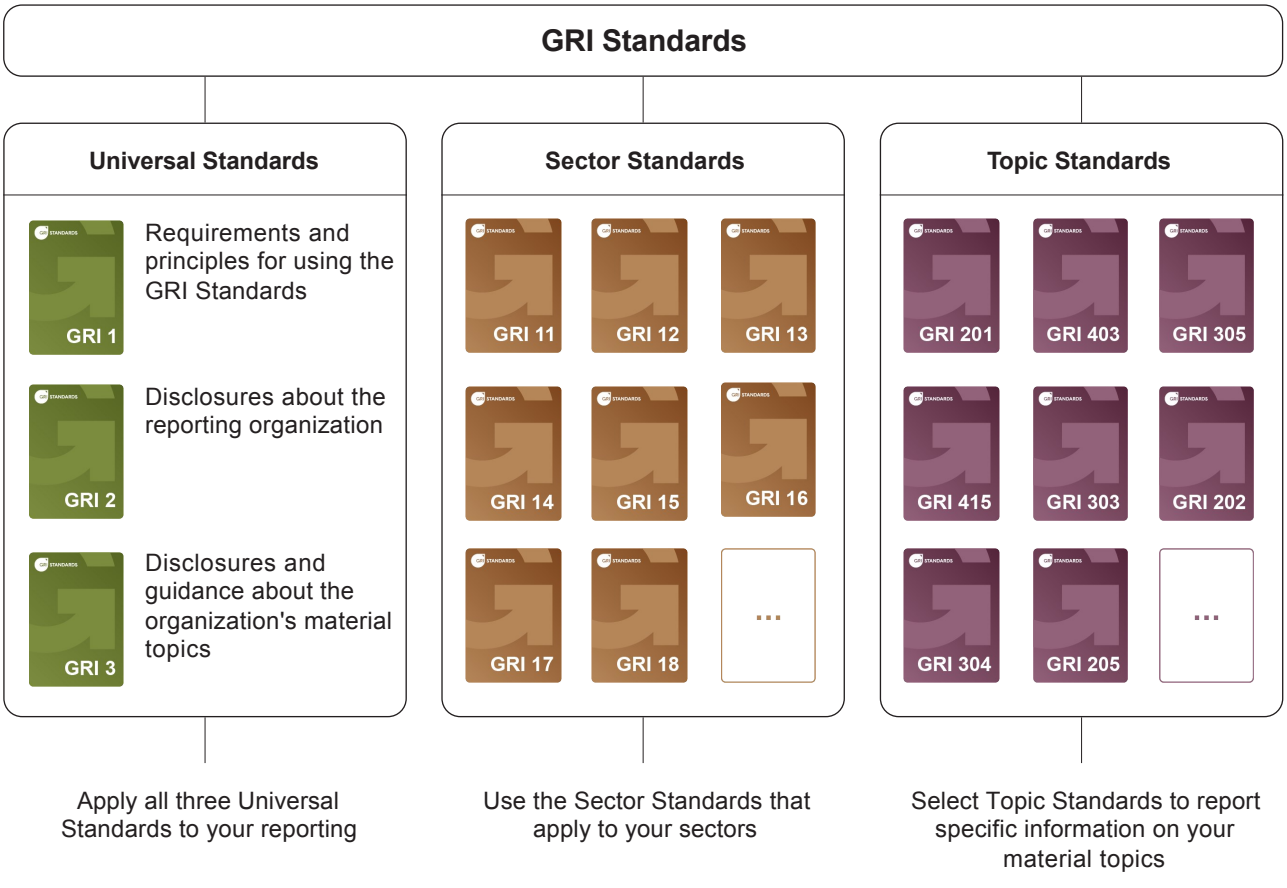
GRI 2: General Disclosures 2021 contains disclosures that the organization uses to provide information about its reporting practices and other organizational details, such as its activities, governance, and policies.

GRI 3: Material Topics 2021 provides guidance on how to determine material topics. It also contains disclosures that the organization uses to report information about its process of determining material topics, its list of material topics, and how it manages each topic.

Sector Standards
The Sector Standards provide information for organizations about their likely material topics. The organization uses the Sector Standards that apply to its sectors when determining its material topics and when determining what to report for each material topic.

Topic Standards
The Topic Standards contain disclosures that the organization uses to report information about its impacts in relation to particular topics. The organization uses the Topic Standards according to the list of material topics it has determined using *GRI 3.*

Figure 1. GRI Standards: Universal, Sector and Topic Standards



Using this Standard

An organization in the mining sector reporting in accordance with the GRI Standards is required to use this Standard when determining its material topics and then when determining what information to report for the material topics.

Determining material topics

Material topics represent an organization's most significant impacts on the economy, environment, and people, including their human rights.

Section 1 of this Standard provides contextual information that can help the organization in identifying and assessing its impacts.

Section 2 outlines the topics that are likely to be material for organizations in the mining sector. The organization is required to review each topic described and determine whether it is a material topic for it.

The organization needs to use this Standard when determining its material topics. However, circumstances for each organization vary, and the organization needs to determine its material topics according to its specific circumstances, such as its business model; geographic, cultural, and legal operating context; ownership structure; and the nature of its impacts. Because of this, not all topics listed in this Standard may be material for all organizations in the mining sector. See *GRI 3: Material Topics 2021* for step-by-step guidance on how to determine material topics.

If the organization has determined any of the topics included in this Standard as not material, then the organization is required to list them in the GRI content index and explain why they are not material.

See Requirement 3 in *GRI 1: Foundation 2021* and Box 5 in *GRI 3* for more information on using Sector Standards to determine material topics.

Determining what to report

For each material topic, an organization reports information about its impacts and how it manages these impacts. Once an organization has determined a topic included in this Standard to be material, the Standard also helps the organization identify disclosures to report information about its impacts relating to that topic.

For each topic in section 2 of this Standard, a reporting sub-section is included. These sub-sections list disclosures from the GRI Topic Standards that are relevant to the topic. They may also list additional sector disclosures and recommendations for the organization to report. This is done in cases where the Topic Standards do not provide disclosures, or where the disclosures from the Topic Standards do not provide sufficient information about the organization's impacts in relation to a topic. These additional sector disclosures and recommendations may be based on other sources. Figure 2 illustrates how the reporting included in each topic is structured.

The organization is required to report the disclosures from the Topic Standards listed for those topics it has determined to be material. If any of the Topic Standards disclosures listed are not relevant to the organization's impacts, the organization is not required to report them. However, the organization is required to list these disclosures in the GRI content index and provide 'not applicable' as the reason for omission for not reporting the disclosures. See Requirement 6 in *GRI 1: Foundation 2021* for more information on reasons for omission.

The additional sector disclosures and recommendations outline further information which has been identified as relevant for organizations in the mining sector to report in relation to a topic. The organization should provide sufficient information about its impacts in relation to each material topic, so that information users can make informed assessments and decisions about the organization. For this reason, reporting these additional sector disclosures and recommendations is encouraged, however it is not a requirement. When the organization reports additional sector disclosures, it is required to list them in the GRI content index (see Requirement 7 in *GRI 1*).

If the organization reports information that applies to more than one material topic, it does not need to repeat it for each topic. The organization can report this information once, with a clear explanation of all the topics it covers. If the organization intends to publish a standalone sustainability report, it does not need to repeat information that it has already reported publicly elsewhere, such as on web pages or in its annual report. In such a case, the organization can report on a required disclosure by providing a reference in the GRI content index as to where this information can be found (e.g., by providing a link to the web page or citing the page in the annual report where the information has been published).

See Requirement 5 in *GRI 1* for more information on using Sector Standards to report disclosures.

GRI Sector Standard reference numbers

GRI Sector Standard reference numbers are included for all disclosures listed in this Standard, both those from GRI Standards and additional sector disclosures. When listing the disclosures from this Standard in the GRI content index, the organization is required to include the associated GRI Sector Standard reference numbers (see Requirement 7 in *GRI 1: Foundation 2021*). This identifier helps information users assess which of the disclosures listed in the applicable Sector Standards are included in the organization's reporting.

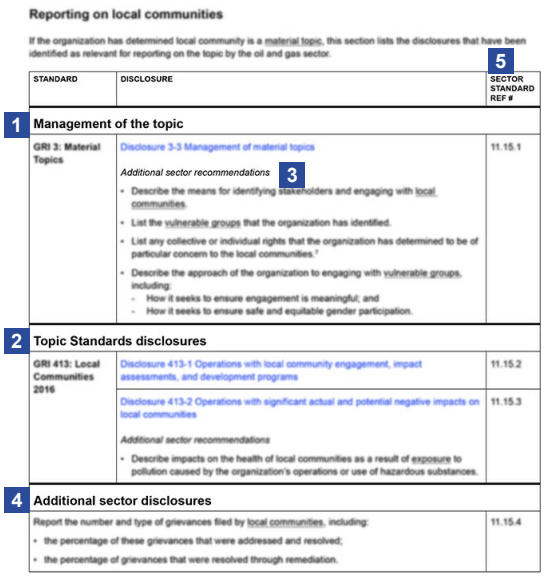
Defined terms

Defined terms are underlined in the text of the GRI Standards and linked to their definitions in the Glossary. The organization is required to apply the definitions in the Glossary.

References and resources

The authoritative intergovernmental instruments and additional references used in developing this Standard, as well as further resources that may help report on likely material topics and can be consulted by the organization are listed in the Bibliography. These complement the references and resources listed in GRI 3: Material Topics 2021 and in the GRI Topic Standards.

Figure 2. Structure of reporting included in each topic



Reporting on local communities

If the organization has determined local community is a material topic, this section lists the disclosures that have been identified as relevant for reporting on the topic by the oil and gas sector.

STANDARD	DISCLOSURE	5 SECTOR STANDARD REF #
1 **Management of the topic**		

GRI 3: Material Topics	Disclosure 3-3 Management of material topics
	Additional sector recommendations 3
	• Describe the means for identifying stakeholders and engaging with local communities.
	• List the vulnerable groups that the organization has identified.
	• List any collective or individual rights that the organization has determined to be of particular concern to the local communities.[1]
	• Describe the approach of the organization to engaging with vulnerable groups, including:
	  - How it seeks to ensure engagement is meaningful; and
	  - How it seeks to ensure safe and equitable gender participation.
		11.15.1

2 **Topic Standards disclosures**		
GRI 413: Local Communities 2016	Disclosure 413-1 Operations with local community engagement, impact assessments, and development programs	11.15.2
	Disclosure 413-2 Operations with significant actual and potential negative impacts on local communities *Additional sector recommendations* • Describe impacts on the health of local communities as a result of exposure to pollution caused by the organization's operations or use of hazardous substances.	11.15.3
4 **Additional sector disclosures**		
Report the number and type of grievances filed by local communities, including: • the percentage of these grievances that were addressed and resolved; • the percentage of grievances that were resolved through remediation.		11.15.4

Management of the topic
The organization is required to report how it manages each material topic using Disclosure 3-3 in *GRI 3: Material Topics 2021*.

Topic Standard disclosures
Disclosures from the GRI Topic Standards that are relevant to the topic are listed here. When the topic is determined by the organization as material, it is required to report these disclosures (if they are relevant to its impacts) or explain why they are not applicable in the GRI content index. See the Topic Standard for the content of the disclosure, including requirements, recommendations, and guidance.

Additional sector recommendations
Additional sector recommendations may be listed. These complement Topic Standard disclosures and Disclosure 3-3 with sector-specific reporting expectations. These are recommended to report, but not required.

Additional sector disclosures
Additional sector disclosures may be listed. Reporting these, together with any Topic Standard disclosures, ensures the organization provides sufficient information about its impacts in relation to the topic. These are recommended to report, but not required.

Sector Standard reference numbers
GRI Sector Standard reference numbers are required to be included in the GRI content index. This helps information users assess which of the disclosures listed in the Sector Standards are included in the organization's reporting.

1. Sector profile

Minerals are essential for the functioning of modern societies and economies. They are used, for example, to make steel and other materials for infrastructure, critical components for transportation, communications, and technological solutions, and to create fertilizers for farming. Minerals are indispensable in the transition to a low-carbon economy and are used for renewable energy technologies, such as wind turbines, solar panels, and the manufacture of electric storage batteries.

Minerals are divided into metallic and non-metallic minerals. Metallic minerals (or metals) can be classified by their properties or function. They comprise precious metals (e.g., gold, silver, platinum); ferrous metals (containing iron); non-ferrous metals (e.g., aluminum, cobalt, copper, lithium, uranium, zinc); and rare earth elements (e.g., neodymium, scandium, yttrium). Sand, stone, lime, potash, and diamonds are examples of non-metallic minerals.

The capital-intensive mining sector represents a wide range of organizations. The sector includes large publicly listed companies often vertically integrated across the value chain, state-owned enterprises (SOEs), and small and medium-sized organizations known as 'junior companies', which often specialize in exploration. Organizations engaged in quarrying are typically less complex, with little or no processing requirements.

Sector activities and business relationships

Through their activities and business relationships, organizations can have an effect on the economy, environment, and people, and in turn make negative or positive contributions to sustainable development. When determining its material topics, the organization should consider the impacts of both its activities and its business relationships.

Activities

The impacts of an organization vary according to the types of activities it undertakes. The following list outlines some of the key activities of the mining sector, as defined in this Standard. This list is not exhaustive.

Prospecting and exploration: Surveying of resources, including feasibility assessments, geologic mapping, aerial photography, geophysical measuring, and exploration drilling.

Development: Design, planning, and construction of mines, access roads, and facilities for processing, waste management, and workers.

Mining operations: Extraction of ores and minerals from the earth using different techniques, such as surface mining, placer mining, underground mining, or *in situ* techniques, as well as primary processing to separate commercially valuable minerals from their ores. This phase also includes the disposal of waste and management of tailings facilities.

Closure and rehabilitation: Decommissioning of processing facilities, land reclamation, restoration, and rehabilitation in line with post-closure objectives, as well as closing and capping waste facilities and associated infrastructure.

Transportation: Moving minerals and waste to the point of storage, consumption, or further processing by, for example, barge, conveyor belt, train, truck, or ship, or transported as slurry by pipeline.

Storage: Storage of minerals at mine sites or import and export terminals.

Sales and marketing: Selling minerals, for example, for iron and steel production, cement production, and use in manufacturing.

Business relationships

An organization’s business relationships include those with business partners, entities in its value chain including those beyond the first tier, and any other entities directly linked to the organization’s operations, products, or services. The following types of business relationships are prevalent in the mining sector and relevant for identifying the impacts of organizations in the sector.

Joint ventures are common arrangements in mining in which organizations share the costs, benefits, and liabilities of assets or a project. They can also include partnerships with SOEs. An organization in the mining sector can be

involved with negative impacts as a result of participating in a joint venture, even if it is a non-operating partner.

Suppliers represent a significant share of spending by mine site and are commonly used to perform mining operations or to provide products or services, including security. Some of the most significant impacts covered in this Standard concern the supply chain.

Customers and other parties in the value chain are increasingly voicing expectations for supply chain traceability to ensure the responsible production of minerals. They, therefore, constitute a key driver of transparency in the sector.

The sector and sustainable development

The mining sector plays an important role in many national economies and can make significant contributions to the economic development of regions and countries. Low- and middle-income countries are most likely to rely on their natural resources as a primary driver of economic activity – a dependence that has grown steadily over the last few decades. In mining-dependent economies, responsible mining practices can lead to reductions in levels of poverty and overall improvements in social well-being.

Financial flows around mining projects are substantial, deriving, for example, from taxes, royalties, and other payments to governments or spending on suppliers. Along with providing employment opportunities, particularly in the supply chain, the sector also invests in infrastructure and community development projects. Benefits like these can contribute to long-term development needs and priorities for rural areas and countries that have limited sources of additional revenue. These flows represent important benefit streams but can also give rise to corruption.

Locating, extracting, and processing minerals entails complex scientific, environmental, and socioeconomic planning. The scale of mining projects can be significant, sometimes spanning vast areas and taking place over many decades. Government legislation, including environmental protections and tax regimes, set out by the countries where mining occurs largely regulate mining projects. If poorly managed, mining can create negative impacts with lasting implications for ecosystems, human rights, and the health, safety, and well-being of workers and local communities. Climate change brings additional challenges to managing the impacts of mining with consequences for water management, biodiversity, and extreme heat. Moreover, the decline of ore grades increases the amount of energy and resources needed by mining organizations to locate and extract minerals from rock, resulting in more pollution and waste generated [20].

Global demand for minerals is expected to increase due to continued economic growth, improved living standards, and the need to transition to a low-carbon economy. While minerals are essential to clean energy technologies that underpin global climate change mitigation goals, the sector is increasingly under scrutiny due to its contribution to GHG emissions and the need to reduce them in the value chain. The mining sector is also facing expectations to transition to renewable energy sources and implement circular economy principles, such as reusing and recycling existing materials.

The drive to mine certain minerals needed for clean technologies has also raised concerns over risks of increased environmental and human rights impacts. When higher-grade ores and proven deposits are depleted, mining activities may be driven to more remote or ecologically sensitive areas, areas characterized by water stress or inhabited by Indigenous Peoples, or fragile, conflict-prone states. Additionally, land use, displacement, environmental impacts, and the economic potential associated with mineral extraction can inflame conflict. This can sometimes result in violence against or within local communities.

Box 1. Gender in mining

Because of the significance of impacts that mining organizations have at a community level, there is a growing expectation to disclose information on their local impacts on the economy, environment, and people. As mining can have different impacts on women and men, organizations are also increasingly expected to consider and address the distinct impacts of their activities on different genders. For example, women are disproportionately and uniquely affected by environmental degradation, climate change, and mining-induced social impacts like sexual and gender-based violence [12] [21]. Additionally, a lack of job opportunities can affect women's financial independence, and conditions of work in the sector can pose additional health and safety risks for women [23].

Applying gender-specific human rights due diligence approaches can address these issues, including when conducting community engagement or assessing aspects related to land rights, security, grievance resolution, and social investments. Organizations can also implement gender-responsive corporate policies and codes of conduct in the workplace. Recognizing how the impacts of mining can be more adverse or beneficial depending on unique social circumstances can broadly contribute to meaningful engagement with affected stakeholders and result in more informed actions by organizations to manage their impacts [9] [18] [21] [26].

A number of topics in this Standard list reporting disclosures that include a breakdown of reported information by gender. This is especially important if the impacts or reported numbers differ significantly for women and men. Beyond these instances, organizations can proactively provide gender-disaggregated data for any other topic where relevant and useful.

Sustainable Development Goals

The Sustainable Development Goals (SDGs), part of the 2030 Agenda for Sustainable Development adopted by the 193 United Nations (UN) member states, comprise the world's comprehensive plan of action for achieving sustainable development [11].

Since the SDGs and targets associated with them are integrated and indivisible, mining organizations have the potential to contribute to all SDGs by enhancing their positive impacts or by preventing and mitigating their negative impacts on the economy, environment, and people.

The mining sector can contribute to achieving Goal 7: Affordable and Clean Energy and Goal 13: Climate Action by supplying critical minerals necessary for the low-carbon transition while mitigating GHG emissions through the use of renewable energy and energy efficiency measures.

The sector has connections to Goal 6: Clean Water and Sanitation and Goal 15: Life on Land due to the impacts that water use and land use by mining organizations can have on local communities and the environment.

The mining sector can make meaningful contributions to Goal 8: Decent Work and Economic Growth and Goal 1: No Poverty because it provides an essential source of revenue and employment in many regions while also providing materials for other industries that drive economic growth. With proper management of environmental impacts and the continuing supply of materials that enable infrastructure development, the mining sector can contribute to Goal 11: Sustainable Cities and Communities and Goal 12: Responsible Consumption and Production.

Table 2 presents connections between the likely material topics for the mining sector and the SDGs. These links were identified based on an assessment of the impacts described in each likely material topic, the targets associated with each SDG, and existing mappings undertaken for the sector (see reference [32] in the Bibliography).

Table 2 is not a reporting tool but presents connections between the mining sector's significant impacts and the goals of the 2030 Agenda for Sustainable Development. See references [32] and [31] in the Bibliography for information on reporting progress towards the SDGs using the GRI Standards.

Table 2. Links between the likely material topics for the mining sector and the SDGs

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Topic 14.1 GHG emissions									●				●	●			
Topic 14.2 Climate adaptation and resilience	●						●	●	●				●				
Topic 14.3 Air emissions			●								●				●		
Topic 14.4 Biodiversity						●						●		●	●		
Topic 14.5 Waste			●			●						●			●		
Topic 14.6 Tailings						●						●			●		
Topic 14.7 Water and effluents						●						●		●	●		
Topic 14.8 Closure and rehabilitation				●		●		●			●				●		
Topic 14.9 Economic impacts	●			●	●			●	●	●							
Topic 14.10 Local communities	●		●		●	●										●	
Topic 14.11 Rights of Indigenous Peoples	●		●		●						●					●	
Topic 14.12 Land and resource rights	●										●					●	
Topic 14.13 Artisanal and small-scale mining (ASM)	●		●					●							●	●	
Topic 14.14 Security practices																●	
Topic 14.15 Critical incident management			●								●						
Topic 14.16 Occupational health and safety			●					●									
Topic 14.17 Employment practices	●				●			●		●							
Topic 14.18 Child labor	●			●				●								●	
Topic 14.19 Forced labor and modern slavery	●							●								●	
Topic 14.20 Freedom of association and collective bargaining								●								●	
Topic 14.21 Non-discrimination and equal opportunity				●	●			●		●						●	
Topic 14.22 Anti-corruption												●				●	
Topic 14.23 Payments to governments	●															●	●
Topic 14.24 Public policy																●	
Topic 14.25 Conflict-affected and high-risk areas								●								●	

Box 2. Other key international instruments and initiatives supporting responsible mining

Downstream actors, investors, and regulators increasingly expect mining organizations to conduct human rights due diligence. The OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas has been widely adopted by organizations to reduce the risk of severe human rights impacts, fueling conflict and financial crime. The OECD guidance has also been adopted by several national and supranational regulatory instruments, such as the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 in the United States and the Mineral Supply Due Diligence Regulation in the European Union. Likewise, the Regional Initiative against the Illegal Exploitation of Natural Resources, administered by the International Conference on the Great Lakes Region (ICGLR), aims to break the link between mineral revenues and conflict financing.

Organizations such as the Extractive Industries Transparency Initiative (EITI) and Intergovernmental Forum on Mining, Minerals, Metals, and Sustainable Development (IGF) are helping countries enhance and communicate on their resource governance and financial benefit-sharing. These efforts show the increasing global push to reveal the path of mineral revenues within governments and the economy, concentrating on issues like transparency over project-level payments, ownership structures, and agreements, permits, contracts, and licenses, as well as wider legal and policy areas affecting the sector to leverage the benefits of mining for local stakeholders.

Similarly, many government-led efforts, including those involving the World Bank and public-private collaborations, have driven increased attention and expectations in the mining sector to identify, assess, prevent, and reduce impacts, all while improving traceability and transparency.

2. Likely material topics

This section comprises the likely material topics for the mining sector. Each topic describes the sector's most significant impacts related to the topic and lists disclosures that have been identified as relevant for reporting on the topic by mining organizations. The organization is required to review each topic in this section and determine whether it is a material topic for the organization, and then to determine what information to report for its material topics.

Mine-site disclosure

This disclosure applies to organizations that own or operate mine sites.[5]

Mining activities have impacts that often manifest locally. Given that an organization's operations may span diverse regions, environments, and jurisdictions, impacts can vary greatly depending on where activities occur. An organization should assess and report information about its impacts in relation to appropriate local contexts (see the Sustainability Context principle in *GRI 1: Foundation 2021* for more information).

Several topics in this Standard include mine-site-level reporting. Where impacts are highly significant for some mine sites and not others, organizations should provide site-level information about the sites where impacts are highly significant.

In other cases, disaggregated data may be needed for all mine sites to allow information users to make accurate assessments about the organization's overall contributions to sustainable development. These include certain public interest topics, such as greenhouse gas (GHG) emissions or biodiversity, where the mining sector has considerable impacts globally.

Organizations can proactively provide mine-site disaggregated data for any topic identified as material for reporting.

Table 3 offers an example of how to present information for Disclosure 14.0.1. Organizations can use the table to indicate instances where impacts are highly significant for specific mine sites, and whether disaggregated data is provided for the site.

ADDITIONAL SECTOR DISCLOSURES	SECTOR STANDARD REF #
List the organization's mine sites and report the organization's definition used for 'mine site'. For each site, report: • the name of the site; • the geographic location (country and coordinates); • the size in hectares.	14.0.1

5 For the purposes of this Standard, a mine site consists of open-cut and underground mines and the surface area disturbed by a mining operation; tailings storage and waste facilities; lands disturbed by the construction or improvement of haulage ways, pipelines and pipeline corridors; and roads or any surface areas in which structures, equipment, materials, or any other elements used in the mining operation are situated. This excludes downstream processing facilities such as smelters, refineries, unless they are co-located with on-site milling or beneficiation infrastructure.

Table 3. Example template for presenting information on mine-site disclosure
The table offers an example of how to present information for Disclosure 14.0.1. The organization can amend the table according to its practices, for example by reporting additional information.

Material topics	**Name of Site 1**		**Name of Site 2**		**Name of Site 3**	
	Country: XXX Coordinates: XXX Size: XXX hectares		Country: XXX Coordinates: XXX Size: XXX hectares		Country: XXX Coordinates: XXX Size: XXX hectares	
	Highly significant impacts	Site-level data	Highly significant impacts	Site-level data	Highly significant impacts	Site-level data
GHG emissions	**Y**	**Y**	**Y**	**Y**	**Y**	**N**
Climate adaptation and resilience	**Y**	**N**	**Y**	**N**	**Y**	**N**
Air emissions	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Biodiversity	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Waste	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Tailings	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Water and effluents	**Y**	**Y**	**Y**	**Y**	**Y**	**N**
Closure and rehabilitation	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Economic impacts	**Y**	**Y**	**Y**	**Y**	**Y**	**N**
Local communities	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Rights of Indigenous Peoples	-	-	**Y**	**Y**	-	-
Land and resource rights	-	-	**Y**	**Y**	-	-
Artisanal and small-scale mining (ASM)	-	-	-	-	**Y**	**Y**
Security practices	-	-	**Y**	**N**	**Y**	**Y**
Critical incident management	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Occupational health and safety	**Y**	**N**	**Y**	**N**	**Y**	**Y**
Employment practices	**Y**	**N**	**Y**	**N**	**Y**	**Y**
Child labor	-	-	**Y**	**Y**	-	-
Forced labor and modern slavery	**Y**	**N**	-	-	-	-
Freedom of association and collective bargaining	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Non-discrimination and equal opportunity	**Y**	**N**	**Y**	**Y**	**Y**	**Y**
Anti-corruption	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Payments to governments	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Public policy	-	-	**Y**	**Y**	-	-
Conflict-affected and high-risk areas	-	-	-	-	**Y**	**Y**
[Additional topic/s]	**Y**	**Y**	-	-	-	-

Topic 14.1 GHG emissions

Greenhouse gas (GHG) emissions comprise air emissions that contribute to climate change. This topic covers direct (Scope 1) and energy indirect (Scope 2) GHG emissions related to an organization's activities, as well as other indirect (Scope 3) GHG emissions that occur upstream and downstream of the organization's activities.

Mining activities are energy-intensive and contribute to greenhouse gas (GHG) emissions that cause climate change. Most GHG emissions from mining activities are associated with the use of fossil fuel-powered vehicles and the consumption of self-generated and purchased electricity. Therefore, most emissions in the mining sector are direct (Scope 1) GHG emissions from sources owned or controlled by the organization. Additionally, energy indirect (Scope 2) GHG emissions result from the generation of purchased or acquired electricity, heating, cooling, and steam consumed by the organization.

Energy-intensive processes and activities include excavation, mine operations, and material transfer. The primary GHG emitted through the sector's activities is carbon dioxide (CO_2). Other GHGs include methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). The amount of energy used at a mine and the resulting emissions depend on several factors, such as mining method, mine depth, geology, mine productivity, and the degree and method of processing required. For example, most of the energy needs of open pit mines are associated with extensive soil and rock movement and longer haul distances, while underground mines have greater pumping, ventilation, cooling, and hoisting-related energy requirements.

Beyond the total amount of energy used, the GHG emissions intensity of mining activities can vary according to mine design and planning, operational practices, and the energy source used. Coal as a fuel source has the highest emissions intensity compared to other fossil fuels, typically releasing more than twice the amount of GHGs than natural gas per unit of electricity produced.

GHG emissions can also increase due to a human-induced change in the use or management of lands, which may lead to a change in land cover. For instance, when forests are cleared to enable mineral extraction and the supporting infrastructure (see also topic 14.4 Biodiversity). Land use change emissions are more prevalent in surface mining due to the greater land use requirements and often lower-grade ores. Methane (CH_4) can also be released through extraction, venting, or as fugitive emissions. Closure activities can further contribute to GHG emissions. However, the rehabilitation of mine sites can be used to capture CO_2 with appropriate reclamation and post-reclamation strategies.

In addition to Scope 1 and Scope 2 GHG emissions, mining organizations are also under increasing scrutiny over other indirect (Scope 3) GHG emissions up and downstream from mining activities. There is a growing expectation for emissions reduction throughout the value chain. For organizations mining gold and other precious metals, the most substantial emissions tend to originate upstream from the organization, namely, from the goods and services they procure. Where minerals require extensive refining, such as smelting, most Scope 3 GHG emissions tend to originate in downstream processes, in particular where coal is used as an energy source. Examples include the manufacture of steel, aluminum, and cement.

To combat climate change, parties to the Paris Agreement have committed to transition to a low-carbon economy. Organizations in the sector are increasingly expected to set GHG emissions targets and reduce emissions in line with the latest scientific evidence on the global effort needed to limit global warming to 1.5° C [42] (see also topic 14.2 Climate adaptation and resilience). Scope 1 and Scope 2 GHG emissions can be reduced, for example, through energy efficiency measures, electrification of equipment, and switching to renewable or low-carbon fuel sources.

In some cases, emissions reduction initiatives such as the electrification of a mine may bring shared power to local communities and businesses. However, it can pose additional challenges to communities, including increased pressure on regional and national energy grids, energy supply disruptions, job losses, or new environmental challenges. Organizations can partner with governments to mitigate such impacts and invest in solutions such as developing renewable energy infrastructure to support mines and the post-mining transition. These efforts can contribute to equitable and just outcomes for workers and the community (see also topics 14.8 Closure and rehabilitation and 14.9 Economic impacts).

Reporting on GHG emissions

If the organization has determined GHG emissions to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics	14.1.1
Topic Standard disclosures		
GRI 302: Energy 2016	Disclosure 302-1 Energy consumption within the organization	14.1.2
	Disclosure 302-2 Energy consumption outside of the organization	14.1.3
	Disclosure 302-3 Energy intensity	14.1.4
GRI 305: Emissions 2016	Disclosure 305-1 Direct (Scope 1) GHG emissions *Additional sector recommendations* • When reporting on gross direct (Scope 1) GHG emissions, include land use change emissions.[6] • Report a breakdown of the gross direct (Scope 1) GHG emissions by mine site.	14.1.5
	Disclosure 305-2 Energy indirect (Scope 2) GHG emissions *Additional sector recommendations* • Report a breakdown of the gross location-based energy indirect (Scope 2) GHG emissions by mine site. • If applicable, report a breakdown of the gross market-based energy indirect (Scope 2) GHG emissions by mine site.	14.1.6
	Disclosure 305-3 Other indirect (Scope 3) GHG emissions	14.1.7
	Disclosure 305-4 GHG emissions intensity *Additional sector recommendations* • Report a breakdown of the GHG emissions intensity ratio by mine site.	14.1.8
	Disclosure 305-5 Reduction of GHG emissions	14.1.9

References and resources

GRI 302: Energy 2016 and *GRI 305: Emissions 2016* list authoritative intergovernmental instruments and additional references relevant to reporting on this topic.

The additional authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on GHG emissions by the mining sector are listed in the Bibliography.

6 Land use change refers to a change in the use or management of land and seascapes by humans, which may lead to a change in land cover. It covers changes to terrestrial ecosystems, such as when forests are converted to enable mineral extraction and supporting infrastructure. Guidance on calculating land use change emissions can be found in the IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry [59] and its 2019 updates [60].

Topic 14.2 Climate adaptation and resilience

Organizations contribute to climate change and are simultaneously affected by it. Climate adaptation and resilience refer to how an organization adjusts to current and anticipated climate change-related risks, as well as how it contributes to the ability of societies and economies to withstand impacts from climate change.

Across the value chain, mining activities contribute to climate change by releasing GHG emissions (see also topic 14.1 GHG emissions). Changing climatic conditions, rising sea levels, and increasing intensity and frequency of extreme weather events already affect every region of the globe, causing negative impacts on the health, livelihoods, and human rights of millions of people. Physical impacts also pose risks to the workers, suppliers, local communities, and infrastructure, including transportation routes linked or adjacent to mining activities.

Climate change has been found to aggravate the impacts of mining on the local environment, disrupting biodiversity (see also topic 14.4 Biodiversity), affecting water quality and quantity, and exacerbating water stress (see also topic 14.7 Water and effluents). Climate change also heightens the risks of tailings storage facility failures due to increased rainfall (see also topic 14.6 Tailings and 14.15 Critical incident management). Rising temperatures can have negative impacts on air quality through the retention of particulate matter, which can exacerbate the impacts of air pollution (see also topic 14.3 Air emissions). In addition, climate change has the propensity to create drier climates where mining takes place, increasing the likelihood of dust events while diminishing the availability of water to suppress dust.

These impacts can have implications for the health, safety, well-being, and livelihoods of local communities and workers. They can also increase competition for natural resources, which often disproportionately affects women [70] (see also topic 14.10 Local communities). Mining organizations can help strengthen local communities' resilience to climate change-related impacts. Adaptation strategies can involve planning for post-mining land use, ensuring the availability of natural resources for agriculture, promoting climate-resilient economic growth, and long-term emergency planning. Organizations can also assist communities in obtaining reliable access to energy and water by, for example, establishing shared renewable energy infrastructure, implementing energy-saving programs, and sharing water resources.

The transition to a low-carbon economy is expected to increase demand for critical minerals needed for clean energy technologies, such as cobalt, copper, lithium, nickel, and rare earth elements. If managed well, this can present opportunities for mineral-rich countries through positive economic development (see also topic 14.9 Economic impacts). However, increased negative environmental and human rights impacts are recognized as a major risk. Many minerals that face rising demand are extracted from regions vulnerable to political instability, institutional weakness, and human rights violations. Mining in these areas can trigger or exacerbate conflict, corruption, environmental damage, and labor abuses (see also topic 14.25 Conflict-affected and high-risk areas).

Box 3. Scenario analysis

Scenario analysis allows for the simultaneous consideration of alternative forms of future states affected by climate change and can be used to explore climate change-related risks. Organizations typically define scenarios according to the transition speed expressed in the average global temperature changes. A scenario compatible with the Paris Agreement will require a temperature rise well below 2ºC, pursuing efforts to limit the temperature rise to 1.5ºC. Other scenarios can be defined according to an organization’s national context. For more guidance, see TCFD, *The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities*, 2017 [82].

Reporting on climate adaptation and resilience

If the organization has determined climate adaptation and resilience to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics *Additional sector recommendations* • Describe the climate change-related scenarios used to assess the resilience of the organization's strategy, including a well-below 2°C, preferably 1.5°C, scenario.[7] • Report whether the organization has a climate change adaptation plan in place, and if so, provide a summary of the plan and the progress made in implementing the plan, and describe how engagement with stakeholders has informed the plan.	14.2.1
Topic Standard disclosures		
GRI 201: Economic Performance 2016	Disclosure 201-2 Financial implications and other risks and opportunities due to climate change *Additional sector recommendations* • Describe how the substantive changes in operations, revenue, or expenditure due to climate change affect or could affect the organization's workers and suppliers, its contributions to economic development, and its payments to governments.	14.2.2

References and resources

GRI 201: Economic Performance 2016 lists authoritative intergovernmental instruments and additional references relevant to reporting on this topic.

The additional authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on climate adaptation and resilience by the mining sector are listed in the Bibliography.

7 The Paris Agreement aims at holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels [67]. Scientific evidence released after the Paris Agreement came into force shows that limiting global warming to 1.5°C 'would substantially reduce projected losses and damages related to climate change in human systems and ecosystems compared to higher warming levels' [64].

Topic 14.3 Air emissions

Air emissions include pollutants that have negative impacts on air quality and ecosystems, including human and animal health. This topic covers impacts from emissions of sulfur oxides (SO_x), nitrogen oxides (NO_x), particulate matter (PM), volatile organic compounds (VOCs), carbon monoxide (CO), and heavy metals, such as mercury (Hg).

In addition to greenhouse gas (GHG) emissions, mining activities are a source of other anthropogenic air emissions classified as pollutants. Globally, air pollution causes acute health problems and millions of deaths annually by contributing to heart and lung diseases, strokes, respiratory infections, and neurological damage [90]. Air emissions are a major concern for the sector's workers (see also topic 14.16 Occupational health and safety) and local communities adjacent to mine sites and transportation routes (see also topic 14.10 Local communities). These emissions disproportionately affect children, the elderly, and the poor [89]. Air emissions from mining activities can also have negative impacts on nearby ecosystems (see also topic 14.4 Biodiversity).

Mining activities release air emissions during drilling, blasting, excavation, overburden removal, storage, mineral processing, and transportation. Fugitive emissions can result from earthmoving, crushing, transportation, and pollutants from tailings facilities (see also topic 14.6 Tailings). These emissions mostly comprise dust and other particulate matter (PM). Depending on the mineral being mined, air emissions can also include heavy metals, carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen oxide (NO_x), hydrogen sulfide (H_2S), and volatile organic compounds (VOCs). The severity of impacts from air emissions can depend on the proximity of local communities and workers, and the sensitivity of local ecosystems.

The extraction and smelting of zinc and other non-ferrous metals produce mercury gases, which lead to severe health impacts. Mercury (Hg) is frequently used in artisanal and small-scale gold mining activities, sometimes located adjacent to mining organization's concessions (see also topic 14.13 Artisanal and small-scale mining). Many gold and silver operations and refineries use cyanide to extract the mineral from ore, which can under certain conditions volatilize into hydrogen cyanide (HCN) and cause respiratory hazards for workers.[8]

Nitrogen oxide emissions from transportation can have negative impacts on ecosystems. They can enter waterways and oceans, have negative impacts on marine life, and generate ground-level ozone (O_3) or smog. Sulfur oxides from burning fossil fuels and smelting mineral ores containing sulfur can lead to acid rain and contribute to ocean acidification. In addition to negative impacts on human health, acid rain, and smog can degrade water and soil quality, impairing the functions of natural environments and thereby affecting food chains.

Box 4. Dust and particulate matter

Mining activities release significant amounts of particulate matter (PM), a pollutant mixture of solid particles and liquid droplets in the air. Dust is the main type of PM from mining, generated during blasting, digging, and hauling, as well as through conveyors, vehicles, and ore crushing. Dust can also be generated from exposed surfaces such as dirt roads, pits, waste piles, or dry tailings. Exposure to dust is associated with increased risks of heart and lung conditions for workers and communities. Dust can also impede the photosynthetic functions of trees and other plants.

Open-pit mining has a large geographic footprint, making dust management challenging. Organizations utilize dust control measures to prevent or mitigate dust exposure for workers and communities, including ventilation systems, dust collectors, irrigation bars, dry fog, water cannons, and bunds of trees. Air quality surveys can be undertaken to assess the adequacy of these controls.

8 Cyanide can also be present in tailings managed in tailings storage facilities. Without proper management controls in place, HCN can be volatilized to the immediate surrounding of the facility.

Reporting on air emissions

If the organization has determined air emissions to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics	14.3.1
Topic Standard disclosures		
GRI 305: Emissions 2016	Disclosure 305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions *Additional sector recommendations* • For each mine site, report significant air emissions[9] relevant for the site, in kilograms or multiples.	14.3.2

References and resources

GRI 305: Emissions 2016 lists authoritative intergovernmental instruments and additional references relevant to reporting on this topic.

The additional references used in developing this topic, as well as resources that may be helpful for reporting on air emissions by the mining sector are listed in the Bibliography.

9 Significant air emissions that are relevant for the mining sector include, for example, NO_x, SO_x, mercury (Hg), PM10 and PM2.5, and hydrogen sulfide (H_2S).

Topic 14.4 Biodiversity

Biodiversity is the variability among living organisms. It includes diversity within species, between species, and of ecosystems. Biodiversity not only has intrinsic value, but is also vital to human health, food security, economic prosperity, and mitigation of climate change and adaptation to its impacts. This topic covers impacts on biodiversity, including on genetic diversity, animal and plant species, and natural ecosystems.

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

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

- air emissions, including dust and fumes (see also topic 14.3 Air emissions);
- effluent discharges such as riverine tailings disposal (see also topic 14.7 Water and effluents);
- waste storage, disposal, and tailings facility failures (see also topics 14.5 Waste and 14.6 Tailings); and
- light, noise, and vibration.

Different mining methods present distinct impacts on biodiversity. Open-pit mines generate more severe impacts than underground mines due to the progressive deepening and widening of the mine site, increasing the affected areas over time. Open-pit mining is a prominent cause of deforestation, with nearly a third of all forests estimated to be affected by mining projects worldwide [110]. Removing carbon sinks and topsoil can also exacerbate GHG emissions (see also topic 14.1 GHG emissions), contributing to erosion and desertification. Underground mining, in turn, can have negative impacts resulting from ground subsidence and groundwater contamination.

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

The increasing demand for minerals drives mining activities to ecologically sensitive areas, including previously undeveloped locations and marine ecosystems (see also topic 14.2 Climate adaptation and resilience). While the potential impacts of deep-sea mining are not fully understood, it is likely to disrupt marine ecosystems, compact or alter seafloor areas, create sediment plumes, and pose a risk of leaks, accidents, and spills on fragile habitats [105].

To limit and manage impacts on biodiversity, many mining organizations use the mitigation hierarchy tool to help inform their actions to balance or outweigh negative impacts on biodiversity [103]. The mitigation hierarchy follows avoidance, minimization, restoration, rehabilitation, and offset. Actions to avoid negative impacts are prioritized, as is minimizing those impacts when avoidance is not possible. Restoration and rehabilitation measures should be implemented when negative impacts cannot be avoided or minimized. Offsetting measures may be applied to residual negative impacts after all other measures have been applied.

Reporting on biodiversity

If the organization has determined biodiversity to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics	14.4.1
Topic Standard disclosures		
GRI 101: Biodiversity 2024	Disclosure 101-1 Policies to halt and reverse biodiversity loss	14.4.2
	Disclosure 101-2 Management of biodiversity impacts	14.4.3
	Disclosure 101-4 Identification of biodiversity impacts	14.4.4
	Disclosure 101-5 Locations with biodiversity impacts *Additional sector recommendations* • Report information on the ecologically sensitive areas for all mine sites.	14.4.5
	Disclosure 101-6 Direct drivers of biodiversity loss *Additional sector recommendations* • Report direct drivers of biodiversity loss for all mine sites.	14.4.6
	Disclosure 101-7 Changes to the state of biodiversity *Additional sector recommendations* • Report changes in the state of biodiversity for all mine sites.	14.4.7
	Disclosure 101-8 Ecosystem services *Additional sector recommendations* • Report information on ecosystem services for all mine sites.	14.4.8

References and resources

GRI 101: Biodiversity 2024 lists authoritative intergovernmental instruments and additional references relevant to reporting on this topic.

The additional authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on biodiversity by the mining sector, are listed in the Bibliography.

Topic 14.5 Waste

Waste refers to anything that a holder discards, intends to discard, or is required to discard. When inadequately managed, waste can have negative impacts on the environment and human health, which can extend beyond the locations where waste is generated and discarded. This topic covers impacts from waste and the management of waste.

Mining activities typically generate high volumes of waste, including hazardous waste. The largest waste streams derive from the extraction or processing of minerals and comprise overburden, rock waste, and tailings. These waste streams can contain toxic and naturally occurring heavy metals and minerals mobilized by mining, such as asbestos and antimony, aluminum, arsenic, cadmium, chromium, copper, iron, lead, manganese, mercury, and thallium.

Waste from mining activities may contaminate surface water, groundwater, and seawater (see also topic 14.7 Water and effluents), as well as food sources. Waste also has negative impacts on human health (see also topic 14.10 Local communities) and animal and plant species (see also topic 14.4 Biodiversity). Land use for waste storage, along with soil contamination, leads to erosion and loss of productive land, which can further have effects on local communities' livelihoods. The waste impacts from mining activities can depend on an organization's approach to waste management, regulations, application of technologies, and the availability of recovery and disposal facilities near mine sites.

Mining activities often require using and storing hazardous materials, such as chemicals, for mineral processing. These materials can be released into the environment during exploration, extraction, processing, and transport. Hazardous materials can accumulate and remain in the environment beyond the life of a mine. There are specific concerns regarding the use of cyanide in processing minerals such as gold and silver, which, when improperly used, stored, or disposed of, can have negative impacts on human health and the environment (see also topic 14.15 Critical incident management). Mercury can be produced as a by-product when processing ores, potentially releasing toxic vapors. While most mining organizations no longer use mercury to extract gold, it is still used by many artisanal and small-scale operators (see also topic 14.13 Artisanal and small-scale mining).

Overburden from surface mining is usually stored in overburden emplacement facilities or dumps on adjacent land until the pit is backfilled or the overburden dump is stabilized and revegetated. These dumps require physical and chemical stabilization to avoid failures, which can have impacts on the environment and the safety of people. Overburden can also contribute to the formation of highly acidic water rich in heavy metals, known as acid mine drainage, which can seep into the environment.

Rock waste is usually managed in heaps or disposed of in waste rock dumps or former open-pit operations and can generate dust (see alsotopic 14.3 Air emissions). Tailings, a by-product of the processing of minerals, are often treated and discarded into ponds, filtered, stored in heaps, or disposed of in underground voids. Runoff from tailings and tailings facility failures can cause widespread environmental contamination and pose risks to the health, safety, and livelihoods of local communities (see also topic 14.6 Tailings).

The amount of waste produced by mining activities depends on the type of mineral extracted and the ore grade. Generally, surface mining produces more waste than underground mining due to the possibility of obtaining lower-grade sediments and rocks from which the mineral is extracted. Waste from mining activities often requires management beyond the productive phase of a mining operation, including long-term aftercare. Closure can also yield significant waste, for example, from decommissioned processing plants and other facilities (see also topic 14.8 Closure and rehabilitation).

Typical waste generated by mining operations comprises oils, chemicals, tires, e-waste, used catalysts, solvents, various industrial byproducts, packaging materials, and construction debris. Mining organizations may also need to manage substantial domestic waste at mine camps or in dedicated mining towns.

Box 5. Circular economy

The mining sector is both a supplier of materials and a significant user of natural resources, materials, and products. Mining organizations are increasingly incorporating circularity measures throughout the value chain. This approach can help reduce the requirement for raw materials, minimize waste generation, and repurpose waste for productive purposes, all contributing to improved resource efficiency. Mining organizations can repurpose tailings and waste rock for uses such as backfill, landscaping, and construction materials. They can also implement processes for treating and recycling process water, enabling its reuse in mining operations. Many circularity measures can be designed in collaboration with and for the benefit of local communities.

Reusing and recycling metals can significantly contribute to the circular economy, as many metals can be melted and reused infinitely. Recycling metals can also be less energy-intensive than extracting and processing virgin materials (see also topic 14.1 GHG emissions). Some mining organizations are already transitioning to more circular business models, expanding their activities from the primary extraction of minerals to metals recycling.

Circularity measures can be reported using GRI 306: Waste 2020, and the use of materials is addressed in GRI 301: Materials 2016.

Reporting on waste

If the organization has determined waste to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics	14.5.1
Topic Standard disclosures		
GRI 306: Waste 2020	Disclosure 306-1 Waste generation and significant waste-related impacts	14.5.2
	Disclosure 306-2 Management of significant waste-related impacts	14.5.3
	Disclosure 306-3 Waste generated *Additional sector recommendations* • When reporting the composition of the waste generated, include a breakdown of the following waste streams: - rock waste; - tailings.[10] • Report a breakdown of the total waste generated and the composition of the waste by mine site.	14.5.4
	Disclosure 306-4 Waste diverted from disposal *Additional sector recommendations* • When reporting the composition of the waste diverted from disposal, include a breakdown of the following waste streams: - rock waste; - tailings. • Report a breakdown of the total waste diverted from disposal and the composition of the waste by mine site.	14.5.5
	Disclosure 306-5 Waste directed to disposal *Additional sector recommendations* • When reporting the composition of the waste directed to disposal, include a breakdown of the following waste streams: - rock waste; - tailings. • Report a breakdown of the total waste directed to disposal and the composition of the waste by mine site.	14.5.6

References and resources

GRI 306: Waste 2020 lists authoritative intergovernmental instruments and additional references relevant to reporting on this topic.

The additional authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on waste by the mining sector are listed in the Bibliography.

10 The additional sector recommendations under Disclosures 306-3, 306-4, and 306-5 ask to report a breakdown of total weight of tailings produced. The management of tailings facilities is reported in topic 14.6 Tailings.

Topic 14.6 Tailings

Tailings are a by-product of mining that need management throughout the life of a mine and beyond closure. Poor design or management of tailings facilities can, at worst, lead to catastrophic failures with lasting impacts on workers, local communities, and damage to the environment, natural resources, and infrastructure.

Tailings are generated as a by-product of mining and are usually one of the largest waste streams related to mining operations (see also topic 14.5 Waste). Often contained in the form of liquid slurry, tailings consist of processed material usually mixed with chemicals left over when separating minerals from rock or soil.

Tailings are often treated and stored in surface tailings facilities, filtered and dry-stacked, or used to fill underground voids. Surface tailings are contained by dams or disposed into decommissioned open pits and can cover vast areas. Other disposal methods, such as riverine, lake, and submarine tailings disposal, are still in use by the sector. However, these methods are widely discouraged due to the significant potential impacts on the environment and health of local communities from, for example, elevated levels of metals present in tailings (see also topic 14.10 Local communities).

Tailings containing heavy metals, cyanide, chemical-processing agents, or sulfides can pose a health risk when released into the environment. Catastrophic failures of tailings facilities, including dams, can pose detrimental risks to the safety and well-being of workers and local communities. At worst, failures can lead to loss of life and the destruction of whole communities (see also topic 14.15 Critical incident management). Further impacts include damage to infrastructure, natural resources, and the activities of other sectors, ultimately disrupting lives and livelihoods. Failures of tailings facilities result from, for example, inadequate water management, overtopping, foundation or drainage failure, erosion, and earthquakes. Extreme weather events due to climate change pose additional challenges to the long-term management of tailings (see also topic 14.2 Climate adaptation and resilience).

Runoff from tailings can contaminate groundwater, surface water, and seawater. Contaminated water sources cause damage to ecosystems, species, and agricultural operations, affecting local communities' health and livelihoods (see also topic 14.7 Water and effluents). Dry tailings can also generate dust (see also topic 14.3 Air emissions). Inefficient processing of metal ores can spur re-encroachment and re-mining of tailings by artisanal and small-scale operators, which can mobilize toxic tailings into the environment (see also topic 14.13 Artisanal and small-scale mining).

Tailings management and storage options depend on and can be altered by various factors. These factors can include the presence of local communities, distance to areas of biodiversity importance, seismicity, the amount and seasonal distribution of rainfall, and local topography. Based on its context, each facility requires unique design and technical considerations to minimize risks to people and the environment throughout the tailings facility lifecycle, including closure and post-closure (see also topic 14.8 Closure and rehabilitation). The design is expected to be monitored, evaluated, and updated regularly, according to findings from reviews, risk assessments, and whenever there are material changes [134].

Organizations utilize site-specific plans on emergency preparedness and response to identify hazards, prepare for and assess their capacity to respond to emergencies, and anticipate long-term remediation. Alongside regular testing and updates, the plan requires active involvement with various stakeholders who could be affected, such as workers and local communities. This includes collaboration with public sector agencies, first responders, local authorities, and institutions to mitigate the potential repercussions of a failure.

Reporting on tailings

If the organization has determined tailings to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics *Additional sector recommendations* • Report whether the organization complies with or has committed to comply with a recognized international standard on tailings management, and, if available, provide a link to the most recent publicly disclosed information.[11]	14.6.1
Additional sector disclosures		
Report the tailings disposal methods used by the organization.		14.6.2
List the organization's tailings facilities, and report the name, location, and ownership status, including whether the organization is the operator. For each tailings facility not confirmed to be in a state of safe closure:[12] • describe the tailings facility, including its construction method;[13] • report whether the facility is active, inactive, or closed; • report the maximum permitted storage capacity and the total weight of tailings stored in metric tons; • report the Consequence Classification in line with Requirement 4.1 of the GISTM; • report the frequency of risk assessments and a summary of the most recent risk assessment findings; • report the date and material findings of the most recent independent technical review, including the implementation of mitigation measures and the date of the next review.		14.6.3

References and resources

The authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on tailings by the mining sector are listed in the Bibliography.

11 Recognized international standards include the *Global Industry Standard on Tailings Management* (GISTM) and the *Tailings Management Protocol* by Towards Sustainable Mining (TSM). In case the organization complies with the GISTM, it provides a link to the most recent information disclosed in line with GISTM Principle 15. In case the organization complies with another recognized international standard (e.g., *Tailings Management Protocol* by TSM), it provides a link to public reporting of compliance results.

12 State of safe closure is defined by the GISTM as a closed tailings facility confirmed to not pose ongoing material risks to people or the environment. For further guidance, including definitions for terms used in additional sector disclosure 14.6.3, see the GISTM [134].

13 Construction method should be reported as 'downstream', 'upstream', or 'centerline'. For further guidance, see the definitions provided by the International Council on Mining and Metals (ICMM) [132].

Topic 14.7 Water and effluents

Recognized as a human right, access to fresh water is essential for human life and well-being. The amount of water withdrawn and consumed by an organization and the quality of its discharges can have impacts on ecosystems and people. This topic covers impacts related to the withdrawal and consumption of water and the quality of water discharged.

Mining can have significant impacts on water availability and quality, resulting in long-term consequences on biodiversity, human health and development, and food security (see also topics 14.4 Biodiversity, 14.10 Local communities, and 14.11 Rights of Indigenous Peoples). Impacts on water occur throughout the life of a mine and beyond closure.

Mining organizations use water throughout their operations, including mineral extraction, processing, cooling, dust suppression, and the transportation of ore and waste in slurries. Mining activities can reduce water availability for local communities and other water users, potentially affecting people's right to clean drinking water. In areas where water is collected manually, reduced access to water can have disproportionate impacts on women and girls, who are typically responsible for this task [141].

The amount of water needed for mining operations depends on operational efficiency and mining methods. The total volume of freshwater withdrawn for mining operations can also vary according to an organization's ability to substitute freshwater, the quality of water required, characteristics of local water resources, and recycling infrastructure.

Mining organizations can improve local communities' access to freshwater by bolstering water and sanitation infrastructure and improving water quality, for example, by treating naturally occurring acid rock drainage. Mining organizations can also influence hydrology and have impacts on the livelihoods of local communities by altering groundwater levels, shifting river flow regimes, and using dams for freshwater needs in mining activities. In areas already facing water stress, mining operations can aggravate the problem by reducing water accessibility for other users and intensifying competition for water. These impacts can exacerbate tensions between and within other sectors or local communities, especially in cases where water rights and regulations are poorly managed or enforced.

The impacts of mining activities on the quality of surface water, groundwater, and seawater can be due to water discharge and runoff, heavy metal contamination, spills, leaks or leaching of chemicals, and the failure of tailings facilities (see also topic 14.5 Waste and 14.6 Tailings). Acid mine drainage can be one of the most significant water impacts from metal mines, occurring when water and oxygen react with rocks containing sulfur-bearing minerals, forming an acidic runoff. Underground operations might also disrupt or contaminate aquifers.

Contamination risks can be higher when mining occurs in areas with frequent heavy rainfall events, which can cause flooding and make the containment of effluents more challenging. The level of water treatment and water quality standards applied to effluent discharges, as well as the sensitivity of the local ecosystem, can affect the impact that mining organizations have on the receiving waterbody.

Droughts, floods, and other extreme weather events due to climate change pose more frequent challenges to water availability and quality (see also topic 14.2 Climate adaptation and resilience), requiring collaborative approaches by the mining sector to prevent or mitigate impacts on local communities [153].

Reporting on water and effluents

If the organization has determined water and effluents to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics *Additional sector recommendations* • Describe actions taken to prevent or mitigate negative impacts from acid mine drainage.	14.7.1
Topic Standard disclosures		
GRI 303: Water and Effluents 2018	Disclosure 303-1 Interactions with water as a shared resource	14.7.2
	Disclosure 303-2 Management of water discharge-related impacts	14.7.3
	Disclosure 303-3 Water withdrawal *Additional sector recommendations* • Report water withdrawal by mine site.	14.7.4
	Disclosure 303-4 Water discharge *Additional sector recommendations* • Report water discharge by mine site.	14.7.5
	Disclosure 303-5 Water consumption *Additional sector recommendations* • Report water consumption by mine site.	14.7.6

References and resources

GRI 303: Water and Effluents 2018 lists authoritative intergovernmental instruments and additional references relevant to reporting on this topic.

The additional authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on water and effluents by the mining sector are listed in the Bibliography.

Topic 14.8 Closure and rehabilitation

At the end of commercial use, organizations are expected to close assets and facilities and rehabilitate operational sites. Impacts can occur during and after closure. This topic covers an organization's approach to closure and rehabilitation, including how the organization considers the impacts on the environment, local communities, and workers.

The aim of closure is to return land disturbed by mining to a physically, biologically, and chemically stable condition. When implemented successfully, it enables ecosystem restoration, minimizes long-term pollution, protects local water supplies, ensures public safety, and provides communities with productive land wherever possible. This process is expected to result in a healthy and functioning ecosystem that is compatible with planned post-mining land use, compliant with regulatory requirements, and considerate of the needs and livelihoods of local stakeholders. Closure planning should start at the project design phase and be updated regularly throughout the mine lifecycle. This can help mitigate impacts on the environment and people while integrating opportunities for reclamation concurrent with mining operations.

When not managed adequately, the closure of a mine can result in various environmental impacts, including the contamination of surface water and groundwater, soil contamination from overburden heaps, changes to landforms, and disturbance to biodiversity (see also topics 14.4 Biodiversity, 14.5 Waste, and 14.7 Water and effluents). The presence of, or contamination by, hazardous materials can result in long-lasting health and safety impacts on people (see also topic 14.10 Local communities). Failure to rehabilitate sites can also render land unsuitable for other productive purposes, such as agriculture, leading to the potential loss of livelihoods.

Closure activities can include:

- stabilization of open-pit or underground workings to prevent subsidence and erosion of mine-pit benches;
- decommissioning of processing facilities, equipment, and other infrastructure;
- removal of workers' facilities and camps;
- land reclamation and rehabilitation, including management of topsoil, waste rock stockpiles, and overburden heaps to control erosion and land degradation, and foster ecosystem restoration;
- closing and sealing waste, including tailings, facilities (see also topic 14.6 Tailings);
- post-closure environmental and socioeconomic monitoring to ensure that post-closure objectives are being achieved; and
- remediation actions identified through monitoring activities.

Mining organizations can implement closure and rehabilitation activities progressively during the operating life of the mine by, for example, backfilling and revegetating unused areas as operations move to other zones.

Although closure and rehabilitation may offer new employment opportunities, cessation of mining operations also leads to unemployment when workers are no longer essential. When a mine closes, it can also result in job losses for the mine's suppliers. In locations where the mine has been the primary economic driver by providing employment, income, tax revenue, community development, and other benefits, closure can leave local communities to face economic downturns and social disruption.

The impacts of mine closure can be exacerbated if there is insufficient notice or inadequate planning for economic revitalization and social transition. Closed or abandoned mine sites can leave a long-lasting legacy of environmental issues and financial burdens for communities and governments, unless there are assigned responsible parties or allocated funds to cover the costs of mine closure and post-closure activities (see also topic 14.9 Economic impacts). Mining organizations can collaborate with local communities, governments, unions, and workers to mitigate negative impacts and work towards a sustainable post-mining economy. This can be done by, for example, reskilling and retraining workers, offering worker transfer programs and relocation assistance programs (see also topic 14.17 Employment practices), and consulting communities, including women, on closure plans (see also topic 14.10 Local communities). Closure planning often starts in the early phases of a mine's life cycle, becoming more detailed and responsive as the closure date approaches.

Many jurisdictions require organizations to make financial provisions, or assurances, for long-term costs associated with mine closure and rehabilitation when developing closure plans. These assurances are intended to cover the total estimated cost of closure activities and post-closure monitoring to account for social and environmental legacy impacts that can occur after closure [157].

Assurances can be in the form of various financial instruments, such as cash deposits, bank guarantees, surety bonds, trust funds, or other third-party-held assets, all designed to ensure the fulfillment of closure obligations.

Organizations can conduct periodic reviews and update costs to account for operational changes during the life of a mine and their effect on the cost of closure. However, closure costs are often misunderstood, poorly regulated, or underestimated, resulting in insufficient financial assurances to cover the actual closure costs. Providing transparency over these provisions can improve the relationship between mining organizations and stakeholders, including governments.

Reporting on closure and rehabilitation

If the organization has determined closure and rehabilitation to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics *Additional sector recommendations* • Describe how engagement with workers, suppliers, local communities, and other relevant stakeholders has informed closure planning and implementation, including post-mining land use.	14.8.1
Topic Standard disclosures		
GRI 402: Labor/Management Relations 2016	Disclosure 402-1 Minimum notice periods regarding operational changes	14.8.2
GRI 404: Training and Education 2016	Disclosure 404-2 Programs for upgrading employee skills and transition assistance programs	14.8.3
Additional sector disclosures		
For each mine site, report whether it: • has a closure and rehabilitation plan in place; • is undergoing closure and rehabilitation activities; • has been closed and rehabilitated.		14.8.4
For each closure and rehabilitation plan: • report whether the plan has been approved by relevant authorities; • report the dates of the most recent and next reviews of the plan.		14.8.5
For each mine site, report in hectares: • total land disturbed and not yet rehabilitated; • total land disturbed and rehabilitated (including progressively rehabilitated, if applicable).		14.8.6
For each mine site, report the estimated life of the mine (LOM).[14]		14.8.7
For financial provisions made by the organization for closure and rehabilitation, including environmental and socioeconomic post-closure monitoring and aftercare for mine sites, report: • the total estimated closure cost (not discounted), whether the financial provision covers the full amount of the current estimated closure cost, and whether the financial provision made is in line with the applicable regulatory requirements, by mine site; • the methodology used to calculate the estimated closure cost; • financial instruments used or developed to guarantee adequate financial provisions for closure and rehabilitation.[15]		14.8.8
Describe non-financial provisions made by the organization to manage the local community's socioeconomic transition to a sustainable post-mining economy, including collaborative efforts, projects, and programs.		14.8.9

14 The definition of life of mine (LOM) used by the organization for this additional sector disclosure should be the same as the definition used in its consolidated financial statements or equivalent documents.

15 For further guidance, including definitions for terms used in the additional sector disclosure, see International Council on Mining and Metals (ICMM), *Financial concepts for mine closure*, 2019 [160]; and Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF), *Global Review: Financial assurance governance for the post-mining transition*, 2021 [157].

References and resources

GRI 402: Labor/Management Relations 2016 and *GRI 404: Training and Education 2016* list authoritative intergovernmental instruments relevant to reporting on this topic.

The additional references used in developing this topic, as well as resources that may be helpful for reporting on closure and rehabilitation by the mining sector are listed in the Bibliography.

Topic 14.9 Economic impacts

An organization's impacts on the economy refers to how the value it generates affects economic systems, for example, as a result of its procurement practices and employment of workers. Infrastructure investments and services supported by an organization can also have impacts on a community's well-being and long-term development. This topic covers economic impacts at local, national, and global levels.

Mining activities can be an important source of investment and income for local communities, countries, and regions. Mineral extraction offers considerable opportunities for producing countries and their communities to gain lasting economic benefits, which, if well managed, can transform national economies, reduce poverty and inequality, and improve people's well-being. Economic contributions can manifest locally through procurement spending, capacity building, or employment provision, and at national, subnational, or regional levels through taxes and royalties (see also topic 14.23 Payments to governments).

Impacts vary according to the scale and duration of operations, interactions with other economic activities, the effectiveness of resource governance by local and national governments, and local procurement and employment practices used by the organization. At a global scale, the sector's contributions are prevalent through, for example, the provision of minerals for the low-carbon transition, essential infrastructure and buildings, and food production.

The economic impacts of mining vary depending on the specific phase of the mining project. During mine development, infrastructure investments are at their peak, procurement of goods and services are high, and many workers are needed. When the mine is in operation, economic impacts are mainly generated through procurement spending, employment, community investments, taxes, and other payments to governments. Mine closure and post-mining phases require economic restructuring, characterized by out-migration, reduced government revenues, and a limited need for infrastructure, goods, and services.

Through local procurement, mining organizations can foster employment and raise demand for goods and services. Workers of mining organizations and their suppliers also drive local economic growth by spending their earnings. Long-lasting positive impacts can be generated by capacity building of suppliers, along with training and skill transfer to the community. Mine construction and operation can involve the development of infrastructure, such as roads, railways, and other transport networks, that local communities can use. Production linkages with other sectors can also drive economic diversification and community development.

The extent to which local communities benefit from mining activities depends on their existing development and industrialization levels, their capacity to provide qualified workers to meet new employment opportunities, and the commitment of organizations in the sector to train local workers. The net employment impact of mining also depends on how existing jobs in other sectors are affected and the organization's employment practices (see also topic 14.17 Employment practices). For example, using a fly-in fly-out work arrangement to supply workers can reduce the employment opportunities available to local communities, detracting from the potential economic benefits at the local level. In places where women are traditionally responsible for meeting the subsistence needs of families and jobs are mostly occupied by men, this can result in increased domestic and community-based workload for women [164]. These impacts can exacerbate economic disparities and gender inequalities, especially if benefit-sharing from mining is separated from the local context and community needs (see also topic 14.10 Local communities).

Changes in technology in industrial-scale mining, such as the increased use of automation and robotics, can affect economic impacts and benefit sharing. While these changes can introduce new skills and increase work opportunities for women and other underrepresented groups, they can also reduce the number of workers needed for mining activities.

Additionally, a poorly planned or executed mine closure process can generate legacy impacts with economic consequences for communities and governments (see also topic 14.8 Closure and rehabilitation).

Lasting negative impacts can be mitigated at the local level in consultation with the community. This can be achieved by incorporating inclusive development, benefit-sharing mechanisms, and impact-driven community development programs aimed at the structural transformation of local economies. Mining organizations can also promote economic inclusion by recruiting or using suppliers that recruit workers from less represented or marginalized groups, including women-owned enterprises (see also topic 14.21 Non-discrimination and equal opportunity). Extending skills development to workers who are not employees and the local community can also contribute to positive impacts and promote a just transition after a mine is closed.

Reporting on economic impacts

If the organization has determined economic impacts to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics *Additional sector recommendations* • Describe the approach to providing employment, procurement, and training opportunities to local communities.	14.9.1
Topic Standard disclosures		
GRI 201: Economic Performance 2016	Disclosure 201-1 Direct economic value generated and distributed *Additional sector recommendations* • Report community investments by mine site.	14.9.2
GRI 203: Indirect Economic Impacts 2016	Disclosure 203-1 Infrastructure investments and services supported *Additional sector recommendations* • Report whether a community needs assessment was conducted to determine the need for infrastructure and services, and how the assessment informed the infrastructure investments and services supported.	14.9.3
	Disclosure 203-2 Significant indirect economic impacts *Additional sector recommendations* • Report the number, total spend, and description of education and skills programs deployed for workers who are not employees.	14.9.4
GRI 204: Procurement Practices 2016	Disclosure 204-1 Proportion of spending on local suppliers *Additional sector recommendations* • Report the percentage of the organization's procurement budget spent on local suppliers by mine site.	14.9.5
Additional sector disclosures		
Report the percentage of workers hired from the local community at the mine-site level, broken down by gender, and the organization's definition used for 'local community'.[16]		14.9.6

References and resources

GRI 201: Economic Performance 2016 lists authoritative intergovernmental instruments and additional references relevant to reporting on this topic.

The additional authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on economic impacts by the mining sector are listed in the Bibliography.

16 Workers hired from the local community include those individuals either born or who have the legal right to reside indefinitely (such as naturalized citizens or permanent visa holders) in the same geographic market as the mining operation. The geographical definition of 'local' can include the community surrounding operations, a region within a country, or a country. This additional sector disclosure is based on Disclosure 202-2 Proportion of senior management hired from the local community in *GRI 202: Market Presence 2016*.

Topic 14.10 Local communities

Local communities comprise individuals living or working in areas that are affected or that could be affected by an organization's activities. An organization is expected to conduct community engagement to understand the vulnerabilities and priorities of local communities and how they may be affected by the organization's activities. This topic covers socioeconomic, cultural, health, and human rights impacts on local communities.

Mining activities can create social and economic benefits for local communities through local procurement and employment, taxes and other payments to governments, infrastructure investments and services supported, and community development programs (see also topics 14.9 Economic impacts and 14.23 Payments to governments). However, mining activities can also trigger negative socioeconomic, cultural, health, and human rights impacts on communities near mine sites, including Indigenous Peoples, artisanal and small-scale miners, and other vulnerable groups, throughout the life of a mine and beyond closure (see also topics 14.11 Rights of Indigenous Peoples and 14.13 Artisanal and small-scale mining).

Negative impacts can result from land use requirements that limit the accessibility and availability of land and natural resources, leading to the loss of tradition, culture, or cultural identity (see also topic 14.12 Land and resource rights). Mining activities can damage tangible cultural heritage, including sites and artifacts, as well as intangible forms of culture, such as lifestyles and knowledge. Other negative impacts on community health, safety, and well-being can be caused by:

- exposure to pollution, hazardous substances, and dust (see also topic 14.3 Air emissions);
- contamination of groundwater and surface water (see also topic 14.7 Water and effluents);
- traffic to and from the mine site;
- increased levels of light, noise, and vibration resulting from, for example, blasting and transportation;
- degradation of ecosystem services;
- reduced fishing and agricultural yields; and
- critical incidents such as explosions, fires, mine collapses, spills, and tailings facility failures (see also topic 14.15 Critical incident management).

Women can be disproportionately affected by the negative environmental impacts of mining. For example, the work to collect water and food in many rural communities is most often carried out by women and girls. Women are also frequently excluded from formal community consultations [179].

The influx of workers, job seekers, or others aiming to benefit from the economic activity of a mine can generate social disruption and greater economic inequalities within the local community. This influx can place local services and resources under pressure, induce inflation, and raise housing costs. There can also be an increase in substance abuse, gambling, and prostitution, as well as communicable diseases, which may disrupt the social cohesion of a community. These changes can have disproportionate impacts on vulnerable groups in society, such as the elderly, children, and young people. Women, in particular, are more affected due to the potential rise in sexual violence and trafficking resulting from the gender imbalance of predominantly male workers. Documented cases also show the presence of domestic and gender-based violence on mine sites and in mining-adjacent communities [185].

Mining can also trigger social conflicts, resulting in human rights impacts. When the interests of the mining organization are at odds with the interests of the local community, disagreements or grievances can escalate (see also topic 14.14 Security practices). Conflict can occur, for example, due to negative environmental impacts, inadequate engagement with the local community, uneven distribution of economic benefits, or disputes over land use and natural resources during mining and post-closure.

Mining organizations can assess impacts on communities throughout the life of a mine by undertaking environmental and social impact assessments. This can help ensure that negative impacts are identified, prevented where possible, addressed, and remedied on time. Organizations are expected to provide benefits that contribute to long-term development for local communities to balance the negative impacts of mining. For example, community development agreements often define mining organizations' rights and responsibilities to deliver socio-economic benefits to local communities. These agreements may include obligations related to infrastructure development, land and water use, collaboration with artisanal and small-scale miners, and local procurement and employment [187]. In some cases, these agreements can be confidential.

Meaningful engagement with local communities involves two-way communication that is transparent, proactive, responsive, and ongoing. This approach can help alleviate tensions, improve community relations, and facilitate transparent decision-making processes, which are essential for obtaining and retaining a social license to operate. Meaningful engagement also entails consultation with local communities before making decisions, including by

acknowledging the power imbalance of the mining organization with local communities and providing accessible, culturally appropriate, and gender-responsive information in the local language [173]. By including the voices of women, ethnic minorities, and other underrepresented groups in consultations, mining organizations can actively involve them community engagement processes. This ensures that the information gathered reflects local priorities and promotes the equitable distribution of benefits.

Organizations further address their negative impacts by establishing or participating in grievance mechanisms and other remediation processes tailored to community needs.

Reporting on local communities

If the organization has determined local communities to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics *Additional sector recommendations* • Describe the approach to identifying stakeholders, including vulnerable groups, within local communities. • Describe the approach to engaging with local communities at each phase of the life of the mine, including: - how the organization seeks to ensure meaningful engagement; - how the organization supports safe and equitable gender participation. • Describe the approach to developing and implementing community development programs, including how engagement with local stakeholders, impact assessments, and community needs assessments have informed the programs.	14.10.1
Topic Standard disclosures		
GRI 413: Local Communities 2016	Disclosure 413-1 Operations with local community engagement, impact assessments, and development programs *Additional sector recommendations* • Report any formal community development agreements made by the organization by mine site.	14.10.2
	Disclosure 413-2 Operations with significant actual and potential negative impacts on local communities *Additional sector recommendations* • For each mine site, describe impacts on the health and safety of local communities.	14.10.3
Additional sector disclosures		
For each mine site, report: • the number and types of grievances from local communities during the reporting period; • the percentage of grievances that were addressed and resolved during the reporting period; • the percentage of grievances resolved through remediation during the reporting period.		14.10.4

References and resources

GRI 413: Local Communities 2016 lists authoritative intergovernmental instruments and additional references relevant to reporting on this topic.

The additional authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on local communities by the mining sector are listed in the Bibliography.

Topic 14.11 Rights of Indigenous Peoples

Indigenous Peoples are at higher risk of experiencing negative impacts more severely as a result of an organization's activities. Indigenous Peoples have both collective and individual rights, as set out in the United Nations Declaration on the Rights of Indigenous Peoples and other authoritative international human rights instruments. This topic covers impacts on the rights of Indigenous Peoples.

Mining activities can present social and economic opportunities and benefits for Indigenous Peoples through financial payments, employment, procurement, training, and community development programs (see also topic 14.9 Economic impacts). However, they can also disrupt Indigenous Peoples' ties to their lands or natural environments, compromise their rights and well-being, and cause displacement (see also topic 14.12 Land and resource rights). Mining can have impacts on the availability and accessibility of water, which is a key concern for many Indigenous Peoples. Mining activities can further damage cultural heritage consisting of tangible sites and artifacts, along with intangible forms of culture such as traditional lifestyles and cultural knowledge.

An influx of workers from other areas can result in discrimination toward Indigenous Peoples regarding access to jobs and opportunities. It can further undermine social cohesion, well-being, and safety. Indigenous women can be more exposed to risks of prostitution, forced labor, violence, and communicable diseases than Indigenous men (see also topic 14.10 Local communities).

Indigenous Peoples' collective and individual rights are recognized in authoritative intergovernmental instruments. Indigenous Peoples often have a special legal status in national legislation and can be customary or legal owners of lands to which organizations in the mining sector are granted use rights by governments. Organizations are expected to obtain free, prior, and informed consent (FPIC) before and throughout their operations on decisions that could have impacts on land or resources that Indigenous Peoples use or own. The United Nations Declaration on the Rights of Indigenous Peoples recognizes their right to grant or withhold consent at any stage of a project that may affect them or their territories and to negotiate improved conditions [197]. Therefore, mining organizations are responsible for respecting Indigenous Peoples' rights, independent of governments' abilities or willingness to fulfill their own human rights obligation.

Organizations in the sector continue to have disputes and conflicts with Indigenous Peoples over land ownership and rights. Documented cases show an absence of good faith consultations and undue pressure on Indigenous Peoples to accept projects, with opposition to such projects sometimes leading to violence or death [201]. Mining organizations can foster positive relations with Indigenous Peoples through consent-based consultation, mutually beneficial agreements, and transparent engagement practices. Direct benefits, including financial payments, are often registered through benefit-sharing agreements to formalize expectations on both sides. Mining organizations can utilize grievance mechanisms, tailored to community needs, to address concerns and provide remedy.

Reporting on rights of Indigenous Peoples

If the organization has determined rights of Indigenous Peoples to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics *Additional sector recommendations* • Describe the approach to identifying Indigenous Peoples who are or could be affected by the organization's activities. • Describe the approach to engaging with Indigenous Peoples, including: - how the organization seeks to ensure meaningful engagement; - how the organization supports safe and equitable gender participation. • Describe the policies or commitments, and actions taken to respect Indigenous Peoples' cultural heritage. • Describe the community development programs in place that are intended to enhance positive impacts for Indigenous Peoples.	14.11.1
Topic Standard disclosures		
GRI 411: Rights of Indigenous Peoples 2016	Disclosure 411-1 Incidents of violations involving rights of Indigenous Peoples *Additional sector recommendations* • Describe the identified incidents of violations involving the rights of Indigenous Peoples.	14.11.2
Additional sector disclosures		
List the locations of operations and proven reserves where Indigenous Peoples are present and are or may be affected by the activities of the organization.		14.11.3
Report whether the organization has been involved in a process of seeking free, prior, and informed consent (FPIC) from Indigenous Peoples for any of the organization's activities and, if so, report for each case: • whether the process has been mutually accepted by the organization and the affected Indigenous Peoples; • whether an agreement has been reached, and if so, if the agreement is publicly available.		14.11.4

References and resources

GRI 411: Rights of Indigenous Peoples 2016 lists authoritative intergovernmental instruments and additional references relevant to reporting on this topic.

The additional authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on rights of Indigenous Peoples by the mining sector are listed in the Bibliography.

Topic 14.12 Land and resource rights

Land and resource rights encompass the rights to use, manage and control land, fisheries, forests, and other natural resources. An organization's impacts on the availability and accessibility of these can affect local communities and other users. This topic covers impacts from an organization's use of land and natural resources on human rights and tenure rights, including from resettlement of local communities.

Mining activities require large areas of land for prospecting, exploration, extraction, waste storage, processing, transportation, and distribution. When adjacent to local communities, these activities sometimes restrict access to culturally significant locations and natural resources, lead to involuntary resettlement, and disrupt traditional livelihoods such as agriculture and artisanal mining (see also topic 14.10 Local communities). The impacts on land and resource rights can lead to unemployment, marginalization, food insecurity, increased health risks, and impoverishment. Impacts derived from land use can vary according to the extraction and transportation method, the size and location of the mine, and the processing required. For example, displacement is more often associated with surface mining. In many cases, vulnerable groups are more severely affected, including women, who are often excluded as legal titleholders (see also topic 14.11 Rights of Indigenous Peoples).

Unclear rules regarding tenure rights that regulate access, use, and control of land can lead to disputes, social and economic tensions, and conflict. This can be exacerbated by insufficient consultation with and compensation to affected communities. For example, in areas where formal statutory tenure laws overlap or go against traditional customary rules, conflict can be stoked when there is a lack of clarity or unmet expectations between communities and mining organizations. These disputes can be about compensation, access, or documentation for customary titleholders who might depend on their land for food, culture, and livelihood.

Involuntary resettlement of local communities, including both physical displacement (e.g., relocation or shelter loss) and economic displacement (e.g., loss of access to assets), can result in the loss of social networks, cultural identities, and physical assets, such as schools, places of worship, and cemeteries. Organizations can remediate negative impacts from resettlement by compensating local communities at full replacement cost for land and other assets lost. This can be done by replacing land when possible, providing access to alternative natural resources, or offering monetary compensation for lost assets.

The impacts of resettlement on livelihoods can be more severe for communities engaged in artisanal and small-scale mining due to the often-informal nature of these activities. In the absence of recognized rights to land and minerals, these communities may not be compensated (see also topic 14.13 Artisanal and small-scale mining). In some cases, community members resisting resettlement may face threats and intimidation, as well as violent, repressive, or life-threatening removal from lands.

Addressing impacts related to land and resource rights and resettlement requires extensive and ongoing assessment of impacts. This can ensure that impacts are identified and prevented, for example, by avoiding involuntary resettlement where feasible. Measures such as fair compensation and improvements to living conditions can help mitigate impacts and provide a timely remedy. Ongoing, inclusive, and culturally appropriate engagement with local communities throughout the life of a mine and beyond closure, for example, through consultations and public hearing processes, is essential to ensure the viability and continuity of community livelihoods. This includes ensuring that women and other groups more vulnerable to impacts are sufficiently represented. Organizations can also seek free, prior, and informed consent when mining activities have impacts on land or resources that local communities use or own.

Reporting on land and resource rights

If the organization has determined land and resource rights to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics *Additional sector recommendations* • Describe the approach to engaging with stakeholders whose rights to land and resources are or could be affected by the organization's activities, including: - how the organization seeks to ensure meaningful engagement; - how the organization supports safe and equitable gender participation. • Describe the policies, commitments, and plans providing remediation to local communities or individuals subject to involuntary resettlement, and the process for establishing compensation for loss of assets, or other assistance to improve or restore standards of living or livelihoods. • Describe the procedures in place to monitor and evaluate the effectiveness of the actions taken to remediate negative impacts from involuntary resettlement and the corrective actions taken where necessary.[17]	14.12.1
Additional sector disclosures		
List the mine sites where involuntary resettlement is planned, ongoing, or has taken place. For each mine site listed: • report the number of persons who have been or will be displaced, and a breakdown by gender; • describe how peoples' livelihoods and human rights are or could be affected and restored.		14.12.2
List the locations of operations where conflicts or violations of land and resource rights (including customary, collective, and informal tenure rights) occurred, and describe the incidents and the stakeholders whose rights are or could be affected.		14.12.3

References and resources

The authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on land and resource rights by the mining sector are listed in the Bibliography.

17 For further guidance, see Requirements 10, 14, and 25 in the IFC Performance Standard 5 Land Acquisition and Involuntary Resettlement [220].

Topic 14.13 Artisanal and small-scale mining

Artisanal and small-scale mining (ASM) refers to mining by individuals, families, or cooperatives with minimal or no mechanization and often operating informally. ASM occurs throughout the world, but is particularly widespread in developing countries where it is an important source of income and livelihood. This topic covers impacts of mining organizations on ASM operators, and impacts mining organizations may be involved with through their business relationships, interactions, or co-location with ASM.

An estimated 45 million people around the world are engaged in artisanal and small-scale mining (ASM). In some regions, the lack of alternative economic opportunities can make ASM an important source of livelihood and employment for local communities, including for women who comprise about 30% of ASM operators [228]. ASM activities can be formal or informal, and are often associated with simplified forms of mining, limited access to technology, and high labor intensity. ASM can include individual operators, families, and cooperatives involving up to hundreds or even thousands of miners. Mining organizations can interact with ASM at the beginning of mining projects when mineral deposits are exposed and ASM operators migrate to mine sites. ASM might also be present before mining organizations commence exploration and extraction.

In some countries, ASM is recognized as a legal and, therefore, formal activity. In contexts where ASM has no legal status, it is regarded as informal. ASM activities can nevertheless be considered legitimate when ASM operators show good faith efforts to operate within the applicable legal framework and engage in formalization opportunities where available. Whether formal or informal, ASM is not considered legitimate when it is characterized by human rights abuses, illicit financial flows, or when it contributes to conflict [232].

When ASM operates without legal status, interactions and co-location with mining organizations can lead to conflicts over land, access and control of mineral deposits, as well as the right to mine (see also topic 14.12 Land and resource rights). Mining organizations may have official mining rights granted by regulatory authorities. However, informal ASM activities may have the support of the local community in accordance with social and cultural traditions or informal customs developed over time (see also topic 14.10 Local communities). In such cases, an organization's use of security personnel to protect assets can lead to human rights violations (see also topic 14.14 Security practices) or exacerbate conflict (see also topic 14.25 Conflict-affected and high-risk areas).

The proximity of mining organizations to informal ASM activities can hinder the effectiveness of mitigation strategies for managing an organization's environmental impacts. For example, efforts to maintain air or water quality may be impeded due to the use of chemicals or heavy metals in ASM. Areas of high biodiversity value that the mining organization has an obligation to protect may also be damaged due to uncontrolled access by ASM operators.

Mining organizations can become involved with negative impacts from ASM when purchasing minerals extracted by ASM operators. These impacts include lower levels of occupational health and safety and the use of mercury, particularly in ASM gold extraction, which is a major concern for the health of workers, local communities, and the environment. ASM can also involve the use of child labor, as children are often engaged in ASM activities to supplement family income (see also topic 14.18 Child labor). Mining organizations can also be involved with occurrences of forced labor through their interaction with ASM.

Mining organizations can undertake community engagement and consultation with ASM operators to build constructive relationships. These would start at the exploration phase to regularly identify, prevent, and mitigate the impacts from interactions and co-location with ASM and those linked by their business relationships, such as security providers. Mining organizations can support the professionalization of informal yet legitimate ASM operators by allocating areas to mine and providing capacity building, resources, and technical assistance. Mining organizations can also invest in local procurement initiatives, foster collaboration through buy-back arrangements, and support formalization through multi-stakeholder collaboration with governments and other relevant parties at regional and national levels.

Reporting on artisanal and small-scale mining

If the organization has determined artisanal and small-scale mining to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		

GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics
	
	Additional sector recommendations
	• Describe the approach to engaging with ASM operators, and the actions taken by the organization to support ASM formalization and professionalization efforts.
	• Describe the programs in place to enhance positive impacts or mitigate negative impacts involving ASM, including:
	  - whether and how the programs incorporate gender considerations,
	  - how engagement with local authorities and communities has informed the programs.
	• If sourcing from artisanal and small-scale mining, describe the policies in place and the process used to identify and assess actual and potential negative impacts.
		14.13.1

Additional sector disclosures		
List the mine sites where ASM occurs on or in close proximity to the site.		14.13.2
Report the total number and nature of incidents involving ASM and actions taken to address them.[18]		14.13.3

References and resources

The authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on artisanal and small-scale mining by the mining sector are listed in the Bibliography.

18 In the context of this disclosure, an 'incident' refers to a legal action or complaint registered with the reporting organization or competent authorities through a formal process, or an instance of non-compliance identified by the organization through established procedures (management system audits, formal monitoring programs, or grievance mechanisms).

Topic 14.14 Security practices

The use of security personnel can play an essential role in allowing an organization to operate safely and productively, but also has the potential to lead to human rights violations. This topic covers impacts as a result of the use or presence of security personnel.

Many organizations in the mining sector use security personnel to protect the organizations' assets or ensure workers' safety and security. Organizations can employ their own personnel but more commonly use third-party security providers, such as private security firms, or engage in arrangements with host governments to provide public security. Security personnel can operate on the organization's site or along the supply chain and may be present in mineral processing, transport, storage, or at the point of sale.

Documented cases show human rights violations by security personnel during encounters with local communities or activists, ranging from threats and intimidation to violence. Women are more vulnerable to harassment and sexual and gender-based violence by security personnel.

While security personnel are deployed across geographies, the risk of human rights violations and breaches of international humanitarian law is heightened in areas affected by conflict, where security providers may be connected to military or paramilitary groups (see also topic 14.25 Conflict and high-risk areas). Risks can also be heightened where mining occurs adjacent to Indigenous Peoples and other vulnerable groups (see also topic 14.11 Rights of Indigenous Peoples). Artisanal and small-scale mining (ASM) operators can face higher risks of human rights violations, particularly when concerns exist around ASM activities on mining organizations' concessions (see also topic 14.13 Artisanal and small-scale mining).

Actions taken by security personnel against local community members and human rights defenders can violate the rights to freedom of assembly and speech, and can lead to injuries and loss of life. Incidents of human rights violations associated with the mining sector can be linked to, for example, protest activities by land and environmental defenders against mining or when communities protect their land and resources from mining activities (see also topic 14.12 Land and resource rights) [245]. Human rights defenders are accorded particular rights and protections as outlined in the United Nations Declaration on Human Rights Defenders and other international agreements, but frequently suffer abuses and harassment. Women human rights defenders are often more severely affected.

Organizations in the sector are responsible for ensuring that security practices are consistent with respect to human rights and international humanitarian law [247]. This involves assessing security-related impacts, identifying situations where impacts on human rights are likely to occur, and working with security personnel to ensure that human rights are respected. Impacts can also be mitigated more broadly by a better understanding of the local context, such as the presence of vulnerable groups and the gender composition of the local community.

Reporting on security practices

If the organization has determined security practices to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics *Additional sector recommendations* • Describe how the organization seeks to prevent or mitigate potential negative impacts from the use of public and private security providers. • Report whether the organization is implementing the Voluntary Principles on Security and Human Rights.	14.14.1
Topic Standard disclosures		
GRI 410: Security Practices 2016	Disclosure 410-1 Security personnel trained in human rights policies or procedures	14.14.2

References and resources

GRI 410: Security Practices 2016 lists additional references relevant to reporting on this topic.

The additional authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on security practices by the mining sector are listed in the Bibliography.

Topic 14.15 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 local communities and infrastructure. This topic covers impacts from such incidents and an organization's approach to managing them.

Critical incidents in the mining sector not only cause damage to the organization's assets but can have catastrophic impacts on workers, local communities, and the environment, for example, through air, soil, and water contamination, ecosystem and habitat degradation, and animal mortality. These impacts can potentially disrupt other economic activities that depend on natural resources, such as agriculture and fishing, affecting livelihoods and compromising food safety and security.

Critical incidents in the mining sector can be related to, for example, the release of hazardous chemicals and gases, rock dump and tailings facility failures (see also topic 14.6 Tailings), stope collapses, ground subsidence, landslides, fires, floods, and vehicle collisions. The transportation, use, and storage of explosives used for blasting can result in injury or the loss of life among workers and local communities. Incidents can be attributed to, for example, improperly used or malfunctioning equipment, human error, mechanical errors, equipment failure (see also topic 14.16 Occupational health and safety), and poor management of waste and hazardous materials (see also topic 14.5 Waste) that can result in fatalities, injuries, or ill health. Incidents can also be attributed to mining-induced seismicity, climatic conditions, and weather events. The likelihood of extreme weather events, such as floods, droughts, fires, and heatwaves, is increasing due to climate change (see also topic 14.2 Climate adaptation and resilience). Critical incidents in the supply chain can involve, for example, contractors performing on-site mining activities or transportation companies involved in highway accidents while dispatching products.

Mining organizations implement critical control management to anticipate incidents and define the controls that must be in place to mitigate or remediate the risk of the incident occurring. Negative impacts from critical incidents can be more effectively prevented and mitigated when an emergency preparedness and response plan is in place. The timely implementation of these measures is essential when critical incidents occur. Mining organizations can enhance readiness for an emergency by establishing effective communication channels and engaging with local communities and other relevant stakeholders about potential health and safety risks associated with mining activities. They can also involve these groups in the remediation process to ensure a comprehensive and collaborative response (see also topic 14.10 Local communities).

Reporting on critical incident management

If the organization has determined critical incident management to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics *Additional sector recommendations* • Describe the organization's approach to emergency preparedness and response plans, including frequency of testing the plans, and how engagement with local communities, workers, public sector agencies, first responders, and local authorities and institutions has informed the plans.	14.15.1
Topic Standard disclosures		
GRI 306: Effluents and Waste 2016	Disclosure 306-3 Significant spills[19]	14.15.2
Additional sector disclosures		
Report the number of critical incidents in the reporting period, describe their impacts, and actions taken to remediate them.		14.15.3
Report the percentage of mine sites that have emergency preparedness and response plans in place, and list the sites that do not.		14.15.4

References and resources

GRI 306: Effluents and Waste 2016 lists authoritative intergovernmental instruments relevant to reporting on this topic.

The additional authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on critical incident management by the mining sector are listed in the Bibliography.

19 The effluents-related content of *GRI 306: Effluents and Waste 2016* has been superseded by *GRI 303: Water and Effluents 2018*, and the waste-related content has been superseded by *GRI 306: Waste 2020*. The spills-related content in *GRI 306: Effluents and Waste 2016* remains in effect.

Topic 14.16 Occupational health and safety

Healthy and safe work conditions are recognized as a human right. Occupational health and safety involves the prevention of physical and mental harm to workers and promotion of workers' health. This topic covers impacts related to workers' health and safety.

The health and safety of workers engaged in mining activities is an ongoing concern for organizations in the sector. Hazards include working with heavy machinery, poor mine structures, and exposure to or handling explosive, flammable, poisonous, or harmful substances. Hazards can be associated with working in confined spaces or isolated locations, long working hours and repetitive tasks. Extraction methods can also determine the severity of hazards, with workers in underground mines often facing higher risks. Additionally, workers in developing countries, especially in remote mine sites, are at a higher risk of workplace injuries and ill health.

Hazards associated with the mining sector can result in high-consequence work-related injuries. Injuries can result from explosives use, the release of gas or dust in confined areas (see also topic 14.3 Air emissions), electrical faults or fires, the collapse of mine structures or facility failures (see also topics 14.15 Critical incident management and 14.6 Tailings), the malfunctioning or misuse of mining equipment, or the lack of adequate personal protective equipment. Transportation accidents frequently occur in the mining sector, particularly among suppliers.

Health hazards can be biological, chemical, ergonomic, or physical. The use of chemicals and exposure to hazardous substances, such as cyanide or mercury, in mineral extraction and processing can lead to long-term health impacts for workers. Exposure to extreme temperatures, harmful radiation, and machinery noise or vibration can result in illness among workers. Health hazards also include poor hygiene, reduced food or water quality in mine sites, and workers' accommodation that can result in diseases. Vulnerable groups, including pregnant women, can be particularly susceptible to health hazards in the sector.

Psychosocial hazards related to common employment practices in the sector include fly-in fly-out work arrangements, long travel times, rotational work, long shifts, night work, irregular working hours, solitary work, living in the workplace, and inadequate rest (see also topic 14.17 Employment practices). These practices can also cause fatigue, increasing the risk of injury. In addition, workplaces characterized by gender imbalance can contribute to increased stress, discrimination, or sexual harassment (see also topic 14.21 Non-discrimination and equal opportunity). Women are often disproportionately affected by remote working environments, inflexible hours, and the prevalence of gender-based violence and harassment fostered by a male-dominated workforce [266].

In the mining sector, the incidence of high-consequence work-related injury tends to be higher for workers who are not employees, such as contractors. This can be attributed to imbalances in occupational health and safety management systems coverage and the application of safety standards, which may not cover contract workers in the same way employees are covered. Contractors might also be less familiar with workplace safety mechanisms and practices or be less committed to them.

Reporting on occupational health and safety

If the organization has determined occupational health and safety to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics	14.16.1
Topic Standard disclosures		
GRI 403: Occupational Health and Safety 2018	Disclosure 403-1 Occupational health and safety management system	14.16.2
	Disclosure 403-2 Hazard identification, risk assessment, and incident investigation *Additional sector recommendations* • Report how the organization ensures the provision of gender-appropriate personal protective equipment for workers. • Describe the processes used to identify work-related incidents due to sexual and gender-based violence, and to determine corrective actions.	14.16.3
	Disclosure 403-3 Occupational health services	14.16.4
	Disclosure 403-4 Worker participation, consultation, and communication on occupational health and safety *Additional sector recommendations* • Report how the organization seeks to ensure women's participation in formal joint management-worker health and safety committees, and the percentage of women represented in these committees.	14.16.5
	Disclosure 403-5 Worker training on occupational health and safety	14.16.6
	Disclosure 403-6 Promotion of worker health	14.16.7
	Disclosure 403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	14.16.8
	Disclosure 403-8 Workers covered by an occupational health and safety management system	14.16.9
	Disclosure 403-9 Work-related injuries	14.16.10
	Disclosure 403-10 Work-related ill health	14.16.11

References and resources

GRI 403: Occupational Health and Safety 2018 lists authoritative intergovernmental instruments and additional references relevant to reporting on this topic.

The additional authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on occupational health and safety by the mining sector are listed in the Bibliography.

Topic 14.17 Employment practices

Employment practices refer to an organization's approach to job creation, terms of employment, and working conditions for its workers. This topic also covers the employment and working conditions in an organization's supply chain.

While mining can offer well-paid work opportunities, negative impacts on workers can derive from challenging working conditions and ineffective labor-management consultations. Job insecurity due to closures, fluctuating commodity price cycles, and technological advances provide additional challenges for workers.

Employment practices can vary in relation to remuneration, hours of work, health and safety coverage, training opportunities, social protection, job security, and access to grievance mechanisms. Full-time employees generally have access to benefits that might not be available to part-time employees. Employment terms can vary between local and migrant workers, whereby remuneration for these workers may be unequal, and benefits, such as bonuses, housing allowances, and private insurance plans, may only be offered to high-skilled migrant workers.

Various activities in the mining sector may be outsourced to suppliers. This practice is common during all phases in the life of the mine, such as construction or maintenance, or for specific activities, such as catering, drilling, security, and transportation. Outsourcing activities could allow organizations in the mining sector to reduce their labor costs or bypass collective agreements that are in place for employees, potentially increasing disparities between employees and workers who are not employees (see also topic 14.20 Freedom of association and collective bargaining).

Many jobs in the mining sector have complex shift patterns, often involving long hours and night work to ensure the continuity of operations around the clock. This can cause high levels of fatigue and increase risks related to health and safety. The remote locations of many mine sites might necessitate the use of fly-in fly-out or other transportation arrangements. Workers who are transported to mine sites for several weeks at a time and often required to work irregular shifts can experience negative impacts on their psychosocial health (see also topic 14.16 Occupational health and safety). These working conditions can also act as a barrier to the employment of primary caregivers, most often women [276] (see also topic 14.21 Non-discrimination and equal opportunity).

Transformations in the sector, such as automation, the deployment of new technologies, and the low-carbon transition, are also changing the employment conditions and opportunities in the sector. Mining organizations can support workers, for example, by providing resources for training, education, and the development of long-term skills and capacities.

Reporting on employment practices

If the organization has determined employment practices to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics	14.17.1
Topic Standard disclosures		
GRI 202: Market Presence 2016	Disclosure 202-1 Ratios of standard entry-level wage by gender compared to local minimum wage	14.17.2
GRI 401: Employment 2016	Disclosure 401-1 New employee hires and employee turnover	14.17.3
	Disclosure 401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	14.17.4
	Disclosure 401-3 Parental leave	14.17.5
GRI 402: Labor/Management Relations 2016	Disclosure 402-1 Minimum notice periods regarding operational changes	14.17.6
GRI 404: Training and Education 2016	Disclosure 404-1 Average hours of training per year per employee	14.17.7
	Disclosure 404-2 Programs for upgrading employee skills and transition assistance programs	14.17.8
GRI 414: Supplier Social Assessment 2016	Disclosure 414-1 New suppliers that were screened using social criteria	14.17.9
	Disclosure 414-2 Negative social impacts in the supply chain and actions taken	14.17.10

References and resources

GRI 401: Employment 2016, *GRI 402: Labor/Management Relations 2016*, *GRI 404: Training and Education 2016*, and *GRI 414: Supplier Social Assessment 2016* list authoritative intergovernmental instruments and additional references relevant to reporting on this topic.

The additional authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on employment practices by the mining sector are listed in the Bibliography.

Topic 14.18 Child labor

Child labor is defined as work that deprives children of their childhood, their potential, and their dignity, and that is harmful to their development, including by interfering with their education. It is a violation of human rights and can lead to lifelong negative impacts. Abolition of child labor is a fundamental principle and right at work.

Children face multiple hazards when working in mining, such as falling rocks, explosions, fires, and the collapse of mine walls. Mining frequently takes place in remote regions with limited access to law enforcement, schools, social services, and family or community support, also making it morally hazardous and psychologically perilous for children engaged in such labor. The International Labour Organization (ILO) considers mining and quarrying as hazardous work and one of the worst forms of child labor, the elimination of which is a priority.

Mining organizations are more likely to become involved with child labor through their suppliers than through their own activities, for example, during the construction of mine sites where work is carried out by suppliers. The specific impacts associated with child labor often depend on gender. For example, girls and young women can be forced into prostitution or provide support services such as washing minerals and cooking. Mining organizations can also become involved with child labor when they purchase minerals extracted by artisanal and small-scale mining (ASM) operators that use child labor (see also topic 14.13 Artisanal and small-scale mining). An estimated one million children between the ages of five and 17 are engaged in ASM and quarrying activities worldwide [285] [286].

Mining organizations can be more exposed to risks of child labor when operating in conflict-affected and high-risk areas (see also topic 14.25). Increased poverty in rural areas due to low employment opportunities and low wages can also drive the incidence of child labor in ancillary or support activities.

To fulfill their responsibility to respect human rights, mining organizations are expected to carry out due diligence to identify activities and suppliers that are at significant risk for incidents of child labor and use their leverage to contribute to the effective abolition of child labor. Several governments have issued legislation requiring public reporting on addressing modern slavery as part of a global effort. Such legislation applies to organizations in the mining sector.

Box 6. Holistic approach to combat child labor

Although the use of child labor has declined globally, increased artisanal and small-scale mining (ASM) activity over the past decades may have resulted in higher levels of children working in mining.

Local economic circumstances and the need for additional family income are key drivers for child labor in mines. Studies have found that disengagement from ASM by mining organizations to avoid the negative impacts of child labor can paradoxically exacerbate the issue and drive ASM to operate in more informal environments with more hazardous working conditions. To holistically address the issue, mining organizations can collaborate with ASMs and local communities to identify child labor activities and the children involved, and cooperate with authorities to promote and sustain economic development [288].

Reporting on child labor

If the organization has determined child labor to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics	14.18.1
Topic Standard disclosures		
GRI 408: Child labor 2016	Disclosure 408-1 Operations and suppliers at significant risk for incidents of child labor	14.18.2
GRI 414: Supplier Social Assessment 2016	Disclosure 414-1 New suppliers that were screened using social criteria	14.18.3

References and resources

GRI 408: Child labor 2016 and *GRI 414: Supplier Social Assessment 2016* list authoritative intergovernmental instruments and additional references relevant to reporting on this topic.

The additional authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on child labor by the mining sector are listed in the Bibliography.

Topic 14.19 Forced labor and modern slavery

Forced labor is defined as all work or service which is exacted from any person under the menace of penalty and for which a person has not offered themselves voluntarily. Freedom from forced labor is a human right and a fundamental right at work. This topic covers an organization's approach to identifying and addressing forced labor and modern slavery.

It is estimated that 4% of all forced labor happens in mining and quarrying [299]. Forced labor and modern slavery occur in situations of involuntary recruitment through trafficking, difficulty leaving the employer without penalty, violent threats, sexual exploitation, debt bondage, deceptive recruitment, withholding of wages, or the retention of identification documents.

Cases of forced labor and modern slavery are especially prevalent in artisanal and small-scale mining (see also topic 14.13) and in conflict-affected and high-risk areas (see also topic 14.25). Migrant workers in the mining sector are also more likely to work under conditions of coercion. They may be unaware of their legal status, lack valid work permits, and have their passports or identification documents confiscated.

Mining organizations can be involved with incidents of forced labor and modern slavery through their business relationships, such as with suppliers who may operate in countries with low enforcement of human rights. In order to fulfill their responsibility to respect human rights, mining organizations are expected to carry out due diligence to identify mine sites and business relationships that are at significant risk for incidents of forced labor and modern slavery. Organizations can also use leverage in their supply chains to combat forced labor and modern slavery.

As part of a global effort, several governments have introduced legislation requiring public reporting on addressing modern slavery, including forced labor practices. In these jurisdictions, such legislation applies to organizations in the mining sector.

Reporting on forced labor and modern slavery

If the organization has determined forced labor and modern slavery to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics	14.19.1
Topic Standard disclosures		
GRI 409: Forced or Compulsory Labor 2016	Disclosure 409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	14.19.2
GRI 414: Supplier Social Assessment 2016	Disclosure 414-1 New suppliers that were screened using social criteria	14.19.3

References and resources

GRI 409: Forced or Compulsory Labor 2016 and *GRI 414: Supplier Social Assessment 2016* list authoritative intergovernmental instruments and additional references relevant to reporting on this topic.

The additional authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on forced labor and modern slavery by the mining sector are listed in the Bibliography.

Topic 14.20 Freedom of association and collective bargaining

Freedom of association and collective bargaining are human rights and fundamental rights at work. They include the rights of employers and workers to form, join, and run their own organizations without prior authorization or interference, and to collectively negotiate working conditions and terms of employment. This topic covers an organization's approach and impacts related to freedom of association and collective bargaining.

Freedom of association and collective bargaining can help improve working conditions in the mining sector, including occupational health and safety, wages, and job security. They address the right of workers to assemble, organize, belong to trade unions or political parties, elect representatives, and strike without interference from their employers.

Many workers in the mining sector have traditionally been represented by trade unions, with jobs covered by collective bargaining agreements. However, some mining activities take place in countries where workers' rights are restricted or not efficiently enforced. Restrictions on effective worker representation might exist even in jurisdictions where unions are legal. Workers who join unions might face intimidation or unfair treatment, harassment, payment cuts, or even employment termination.

Documented cases of interference with freedom of association and collective bargaining in the sector include the detention of managers and other employees, invasion of privacy, non-adherence to collective agreements, and the prevention of trade union access to workplaces to assist workers. Other documented cases include the refusal to bargain in good faith with workers' chosen trade unions. Union members and leaders have been threatened, harassed, kidnapped, beaten, and, in severe cases, even murdered. Unfair dismissal and unilateral cancellation of collective bargaining agreements are other forms of interference with freedom of association and collective bargaining.

There can be disparity in implementing workers' rights due to differing terms and conditions of employment in the sector. Contract workers, for example, are often excluded from the scope of collective bargaining agreements and might receive less favorable employment conditions and lower base salaries or benefits compared to employees. Lack of access to freedom of association and collective bargaining can result in adverse working conditions, such as low wages and long working hours, which exacerbate impacts on those already facing work-related vulnerabilities and isolation (see also topic 14.21 Non-discrimination and equal opportunity).

Trade unions have reported restrictions on temporary workers or workers employed by suppliers accessing the same rights as other employees. In some cases, organizations have hired workers on short-term contracts or outsourced jobs to prevent workers from joining unions. Similarly, migrant workers are also less likely to be covered by collective bargaining agreements or able to join unions.

According to the International Labour Organization (ILO), all workers should enjoy the right to freedom of association and collective bargaining, and organizations should ensure that these rights are not unreasonably affected. Mining organizations can ensure that workers of all employment conditions have access to grievance mechanisms, often facilitated or partly designed by unions, to help resolve stakeholder concerns before they develop into conflicts.

Reporting on freedom of association and collective bargaining

If the organization has determined freedom of association and collective bargaining to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics	14.20.1
Topic Standard disclosures		
GRI 407: Freedom of Association and Collective Bargaining 2016	Disclosure 407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	14.20.2
Additional sector disclosures		
Report the number of strikes and lockouts involving 1,000 or more workers lasting one full shift or longer, and their total duration in worker days idle.[20]		14.20.3

References and resources

GRI 407: Freedom of Association and Collective Bargaining 2016 lists authoritative intergovernmental instruments relevant to reporting on this topic.

The additional authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on freedom of association and collective bargaining by the mining sector are listed in the Bibliography.

20 Worker days idle is calculated as the product of days idle and number of workers involved.

Topic 14.21 Non-discrimination and equal opportunity

Freedom from discrimination is a human right and a fundamental right at work. Discrimination can impose unequal burdens on individuals or deny fair opportunities on the basis of individual merit. This topic covers impacts from discrimination and practices related to diversity, inclusion, and equal opportunity.

The nature of work in the mining sector, including the conditions, locations, necessary skills, and types of work, can inhibit diversity and equal opportunity for workers. While the barriers to entry in mining can be detrimental to an inclusive workplace, discrimination within mining organizations can also impede job access and career development, leading to disparities in treatment, basic salary, and benefits.

Discrimination can manifest within mining organizations and in their supply chains. Discrimination can occur based on age, gender, race, religion, nationality, sexual orientation, or worker status. Individuals from vulnerable groups often face a higher risk of discrimination. They include Indigenous Peoples, ethnic or other minorities, migrant workers, and workers with HIV/AIDs or other chronic health issues.

The mining sector is characterized by a significant gender imbalance among workers, including senior management. Examples of unequal treatment for women workers include impeded access to jobs, less pay than male counterparts, and discrimination in hiring. Other challenges include the physical demands of mining operations, the effects of fly-in fly-out work arrangements, long hours, and limited parental leave and childcare opportunities. Women at mine sites can also face a lack of gender-appropriate facilities and protective equipment.

In addition, male-dominated work cultures and gendered organizational norms have contributed to the likelihood of sexual harassment in the workplace, documented in fly-in fly-out worker camps. The remoteness of mine sites can also contribute to gender-based discrimination due to having less access to protective services, legal representation, and law enforcement personnel. Mining organizations can promote gender equity and inclusion in the workplace by, for example, recognizing women's rights at work, providing gender-appropriate facilities and equipment, and ensuring equal opportunities.

Local workers and Indigenous Peoples can experience racial and ethnic discrimination at all organizational levels. Jobseekers from local communities are sometimes excluded from the hiring process or might receive lower pay than expatriate employees recruited for skill-specific roles. Migrant workers, especially when low-skilled or working at the mine site on a temporary basis, can face additional forms of discrimination in employment and treatment (see also topic 14.17 Employment practices). Contract workers can also be more vulnerable to discrimination if organization-wide discrimination policies do not protect their working arrangements.

Alongside accessible and effective grievance mechanisms, understanding how specific groups may be subject to discrimination across different locations of mining activities can help the sector effectively address discriminatory practices. Establishing and supporting transparent workplace policies on inclusion and diversity, such as training workers about cultural sensitivity and non-discrimination, can help foster a respectful workplace and prevent discrimination.

Reporting on non-discrimination and equal opportunity

If the organization has determined non-discrimination and equal opportunity to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics	14.21.1
Topic Standard disclosures		
GRI 202: Market Presence 2016	Disclosure 202-2 Proportion of senior management hired from the local community *Additional sector recommendations* • Report a breakdown of the percentage of senior management hired from the local community by gender.	14.21.2
GRI 401: Employment 2016	Disclosure 401-3 Parental leave	14.21.3
GRI 404: Training and Education 2016	Disclosure 404-1 Average hours of training per year per employee	14.21.4
GRI 405: Diversity and Equal Opportunity 2016	Disclosure 405-1 Diversity of governance bodies and employees *Additional sector recommendations* • Report whether the organization has a gender equality or gender equity plan or policy in place and, if so, provide a summary of the plan, and progress made in implementing the plan.	14.21.5
	Disclosure 405-2 Ratio of basic salary and remuneration of women to men *Additional sector recommendations* • Report the ratio of basic salary and remuneration of women to men by mine site. • Report the ratio of basic salary and remuneration by other relevant indicators of diversity by mine site.[21]	14.21.6
GRI 406: Non-discrimination 2016	Disclosure 406-1 Incidents of discrimination and corrective actions taken	14.21.7

References and resources

GRI 202: Market Presence 2016, GRI 401: Employment 2016, GRI 404: Training and Education 2016, GRI 405: Diversity and Equal Opportunity 2016, and GRI 406: Non-discrimination 2016 list authoritative intergovernmental instruments relevant to reporting on this topic.

The additional authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on non-discrimination and equal opportunity by the mining sector are listed in the Bibliography.

21 Organizations should report the ratio of the basic salary and remuneration for priority areas of equality: women to men, minor to major ethnic groups, and other relevant equality areas (as appropriate based on the organization's local operating context and legal framework).

Topic 14.22 Anti-corruption

Anti-corruption refers to how an organization 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. This topic covers impacts related to corruption and an organization's approach related to contract and ownership transparency.

Corruption in the mining sector can occur throughout the value chain, irrespective of the country of operation or the country's economic development, location, and political context. Corruption can have several negative impacts, such as the misallocation of resource revenues and harm to the environment and people when mining projects are awarded to unqualified or unethical organizations. Other impacts include the abuse of democracy and human rights, and the potential for political instability.

Corruption can also divert resource revenues to private beneficiaries at the expense of public investments in infrastructure or services. This can be particularly critical in countries with high poverty levels where existing inequalities might be intensified. The risk of corruption is prevalent in conflict-afflicted and high-risk areas since increased pressure on resource availability and instability might be exploited (see also topic 14.25 Conflict-affected and high-risk areas).

Characteristics of the mining sector that increase the likelihood of corruption include frequent interaction between mining organizations and politically exposed persons[22], such as government officials, for licenses and regulatory approvals. Other relevant characteristics include complex financial transactions and the international reach of the sector (see also topic 14.23 Payments to governments).

State-owned enterprises (SOEs) in the mining sector are more exposed to corruption, particularly in the process of awarding permits, procuring goods and services, commodity trading, and non-commercial activities such as social expenditures [325]. SOEs might have less effective internal controls and fewer transparency expectations than public companies and often receive preferential treatment due to their special legal status in a country. Private mining organizations partnering with SOEs are thus more prone to corruption due to their business relationship. In addition to driving profit, SOEs sometimes pursue broader objectives such as community development. However, without adequate oversight, measures for community development might be abused for corrupt purposes.

Corruption has been identified in the mining sector during the process of awarding exploration and production contracts and licenses. This corruption can have the aim of obtaining confidential information, exerting influence on decision-making, or circumventing environmental and local content regulations. Corruption can also occur in the consultation process when seeking consent and when compensating local communities, either directly or through local governments, which might lack transparent financial procedures (see also topic 14.12 Land and resource rights and 14.11 Rights of Indigenous Peoples). Corruption in these processes may result in licenses being awarded to less qualified organizations, jeopardizing public investments, or negatively impacting the environment and local communities.

Corrupt practices can also be aimed at blocking or shaping policies and regulations or influencing their enforcement. This is particularly common to land and resource rights regulations, taxes and other government levies, or environmental protections (see also topic 14.24 Public policy). A lack of transparency in procurement practices can have significant economic impacts on host countries and local economic development (see also topic 14.9 Economic impacts). Examples of this can include paying bribes to have regulations or quality requirements waived, receiving kickbacks for securing contracts at inflated prices, profiting from inflated prices charged by an entity established as a front organization, and favoring companies connected to local regulators.

A lack of transparency on contracts and licensing over mineral resource extraction may obstruct public scrutiny of investments and transactions linked to a project's negative impacts and benefits, including negotiated terms and obligations of organizations. Fair terms for sharing risks and rewarding benefits are particularly relevant because of the long-term time horizons and widespread impacts of mining projects. Contract transparency helps local communities hold governments and organizations accountable for their negotiated terms and obligations. Opaque ownership structures, in turn, can make it difficult to determine who benefits from these financial transactions. Transparency of beneficial ownership has been identified as a vehicle to deter conflicts of interest, corruption, tax avoidance, and evasion.

Stakeholders, the marketplace, and international norms expect organizations in the mining sector to demonstrate their adherence to national laws, integrity, governance, and responsible business practices to combat corruption and prevent the negative impacts that stem from it.

22 Politically exposed person is defined by the Financial Action Taskforce (FATF) as 'an individual who is or has been entrusted with a prominent public function' [323].

Reporting on anti-corruption

If the organization has determined anti-corruption to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics *Additional sector recommendations* • Describe how potential impacts of corruption or risks of corruption are managed in the organization's procurement practices and throughout the supply chain.	14.22.1
Topic Standard disclosures		
GRI 205: Anti-corruption 2016	Disclosure 205-1 Operations assessed for risks related to corruption	14.22.2
	Disclosure 205-2 Communication and training about anti-corruption policies and procedures	14.22.3
	Disclosure 205-3 Confirmed incidents of corruption and actions taken	14.22.4
Additional sector disclosures		
Describe the approach to contract transparency, including: • whether contracts and licenses are made publicly available and, if so, where they are published; • if contracts or licenses are not publicly available, the reason for this and actions taken to make them public in the future.[23]		14.22.5
Report the following information about the organization's beneficial owners, including joint ventures: • name, nationality, and country of residence; • whether they are politically exposed persons; • level of ownership; • how ownership or control is exerted.[24]		14.22.6

References and resources

GRI 205: Anti-corruption 2016 lists authoritative intergovernmental instruments and additional references relevant to reporting on this topic.

The additional authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on anti-corruption by the mining sector are listed in the Bibliography.

23 This additional sector disclosure is based on Requirement 2.4. Contracts in the *EITI Standard 2023*. Definitions for contracts and licenses can be found in the *EITI Standard 2023* [333].

24 This additional sector disclosure is based on Requirement 2.5. Beneficial ownership in the *EITI Standard 2023*. The definition for beneficial ownership can be found in the *EITI Standard 2023*. Publicly listed organizations or wholly-owned subsidiaries or a publicly listed organization are exempt from reporting information about the beneficial owners of their joint ventures [333].

Topic 14.23 Payments to governments

Lack of transparency about payments to governments can contribute to inefficient management of public funds, illicit financial flows, and corruption. This topic covers impacts from an organization's practices related to payments to governments and the organization's approach to transparency of such payments.

The mining sector can have significant impacts on national incomes, fiscal revenues, and foreign exchange revenues by means of various payments to governments (see also topic 14.9 Economic impacts). These payments include commodity trading revenues, exploration and production licensing fees, taxes and royalties, and signature, discovery, and production bonuses.

Organizations that engage in aggressive tax practices or tax non-compliance can diminish national tax revenues to the detriment of the public good. Avoidance of taxes and other payments to governments can be facilitated by tax minimization practices such as transfer pricing or illicit financial flows, which include the cross-border movement of money that is illegally earned, transferred, or used [341].

Mining organizations can receive financial assistance from governments in the form of tax relief, subsidies, grants, or financial incentives. This can potentially hinder government revenue collection and reduce the financial benefits of mining which create economic development. These risks are more prevalent in developing countries as well as conflict-affected and high-risk areas, where the need for public revenue is often higher.

Reporting on payments to governments can highlight the economic importance of the mining sector to countries, enable public debate, and inform government decision-making. It can also provide insights into the terms of contracts, increase accountability, and strengthen revenue collection and management. On the other hand, a lack of transparency by mining organizations can impede the detection of potentially misallocated revenues and corruption (see also topic 14.22 Anti-corruption).

When disclosing information on payments to governments, organizations in the mining sector often report aggregate payments at an organizational level. However, this can provide limited insight into payments made in each country or related projects. Reporting country-by-country and by project (or mine site) allows for comparisons of the payments made to those stipulated in fiscal, legal, and contractual terms. It also allows for an assessment of the financial contribution of mining activities to host countries and communities. Full disclosure enables governments to address tax avoidance and evasion, correct information asymmetry, and level the playing field for governments when negotiating contracts.

Reporting on payments to governments

If the organization has determined payments to governments to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics	14.23.1
Topic Standard disclosures		
GRI 201: Economic Performance 2016	Disclosure 201-1 Direct economic value generated and distributed	14.23.2
	Disclosure 201-4 Financial assistance received from government *Additional sector recommendations* For state-owned organizations (SOEs): • Report the financial relationship between the government and the SOE.[25]	14.23.3
GRI 207: Tax 2019	Disclosure 207-1 Approach to tax	14.23.4
	Disclosure 207-2 Tax governance, control, and risk management	14.23.5
	Disclosure 207-3 Stakeholder engagement and management of concerns related to tax	14.23.6
	Disclosure 207-4 Country-by-country reporting *Additional sector recommendations* • Report a breakdown of the organization's corporate income tax paid and accrued in profit/loss, and other payments to governments, levied at the project-level, by project, and by material revenue stream.[26] • Report any thresholds[27] that have been applied and any other contextual information necessary to understand how the project-level payments to governments reported have been compiled.	14.23.7
Additional sector disclosures		
For minerals purchased from the state or from third parties appointed by the state to sell on their behalf, report: • volumes and types of minerals purchased; • full names of the selling entity and the recipient of the payment; • payments made for the purchase.[28]		14.23.8

25 This additional sector recommendation is based on Requirement 2.6 State participation in the *EITI Standard 2023* [344].

26 This additional sector recommendation is based on Requirement 4.1 Comprehensive disclosure of taxes and revenues and Requirement 4.7. Level of disaggregation in the *EITI Standard 2023*. EITI considers payments and revenues material if their omission or misstatement could significantly affect the comprehensiveness of the disclosures. A definition for project can be found in the *EITI Standard* 2023 [344].

27 The *EITI Standard 2023* specifies that in countries implementing the EITI, the multi-stakeholder group for the country agrees which payments and revenues are material, including appropriate materiality definitions and thresholds [344]. The organization can use the relevant threshold set by the EITI multi-stakeholder group. If there is no relevant threshold set, the organization can use a threshold equivalent to that established for the European Union, which specifies that 'Payments, whether a single payment or a series of related payments, below EUR 100,000 within the reporting period can be excluded' [335].

28 This additional sector disclosure is based on Requirement 4.2 Sale of the state's share of production or other revenues collected in kind in the *EITI Standard 2023* [344] and *EITI Reporting Guidelines for companies buying oil, gas and minerals from governments,* 2020 [345].

References and resources

GRI 201: Economic Performance 2016 and *GRI 207: Tax 2019* list authoritative intergovernmental instruments and additional references relevant to reporting on this topic.

The additional authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on payments to governments by the mining sector are listed in the Bibliography.

Topic 14.24 Public policy

An organization can participate in public policy development, directly or through an intermediary organization, by means of lobbying or making financial or in-kind contributions to political parties, politicians, or causes. While an organization 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 organization's interests. This topic covers an organization's approach to public policy advocacy and the impacts that can result from the influence an organization exerts.

Organizations in the mining sector can influence public policy development through lobbying and advocacy at local, regional, and national levels. These measures can allow access to government representatives and increase organizations' influence over public policy decisions affecting the mining sector. Advocacy and lobbying can be carried out directly by the organization or through industry groups and other associations supported by the mining organization.

The sector can use its influence to advance responsible sector practices by safeguarding existing jobs, assisting in community development, and fostering foreign investment in a country. However, public policy and lobbying activities can also be used to secure mining license approvals, influence legislation on environmental and social assessments, and lower taxes and other government levies (see also topic 14.23 Payments to governments). These activities can ultimately shape environmental policies and obstruct sustainable development. For example, mining organizations are under increasing scrutiny for links to industry groups that advocate for policies inconsistent with the organizations' own publicly stated positions and the goals of the Paris Agreement [349].

Mining organizations can also influence public policy at local levels to have mining developments approved, for example, by colluding with local leaders while excluding the wider community from decision-making processes (see also topic 14.10 Local communities).

In some cases, direct contributions to political parties or through intermediaries can be used to gain favor for private sector interests. These contributions can be linked to corruption, especially in areas where regulations on political donations and lobbying are weak (see also topic 14.22 Anti-corruption). Mining organizations can also employ former government representatives to acquire sensitive or insider knowledge about future policies to gain a commercial advantage.

Increased transparency about lobbying activities and political contributions made by mining organizations and affiliated industry groups can facilitate scrutiny by accountability organizations, the general public, and the media. This transparency enables stakeholders to assess whether mining organizations, directly or through their affiliations with industry groups, have improperly influenced legislative decisions, policy-making, and regulatory approvals.

Reporting on public policy

If the organization has determined public policy to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics *Additional sector recommendations* • Report whether the organization is a member of, or contributes to, any representative associations or committees that participate in public policy development and lobbying, including: - the nature of this contribution; - any differences between the organization's stated policies, goals, or other public positions on significant issues and the positions of the representative associations or committees.[29]	14.24.1
Topic Standard disclosures		
GRI 415: Public Policy 2016	Disclosure 415-1 Political contributions	14.24.2

References and resources

GRI 415: Public Policy 2016 lists authoritative intergovernmental instruments and additional references relevant to reporting on this topic.

The additional authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on public policy by the mining sector are listed in the Bibliography.

29 These additional sector recommendations are based on reporting recommendations 1.2.1 and 1.2.2 in *GRI 415: Public Policy 2016*. Please see Disclosure 2-28 in *GRI 2: General Disclosures 2021* for further guidance on membership associations.

Topic 14.25 Conflict-affected and high-risk areas

When operating in or sourcing from conflict-affected and high-risk areas, organizations are more likely to be involved in human rights and legal violations and be implicated in corruption and financial flows contributing to conflict. This topic covers an organization's approach and impacts related to operating in or sourcing from conflict-affected and high-risk areas.

Many mining organizations operate in or have business relationships with entities that have activities in conflict-affected and high-risk areas.[30] In these areas, there is a heightened risk of serious human rights abuses and violations of law, including international humanitarian law.[31] Operating in and sourcing from conflict-affected and high-risk areas requires heightened due diligence of mining organizations on an ongoing basis. This allows for a better contextual understanding of the conflict and the interactions the organization may have with business relationships to identify, prevent, or mitigate potential negative impacts, including contributing to conflict [362].

While armed conflict and widespread violence can occur independent of mining activities, the presence of these activities can also exacerbate conflict. The circumstances of extraction, trade, or handling of minerals by their nature have higher risks of significant negative impacts, such as financing conflict or fueling and facilitating conditions of conflict. Specific abuses related to these activities include torture; cruel, inhuman and degrading treatment; forced or compulsory labor; worst forms of child labor; widespread sexual violence; and war crimes or other serious violations of international humanitarian law, crimes against humanity, or genocide [358]. Weak governance structures and the presence of armed groups can also inhibit the implementation of standards and regulations needed to mitigate the environmental impacts of mining.

In conflict-affected and high-risk areas, armed groups or their affiliates often illegally control mine sites, transportation routes, or points where minerals are traded. Armed groups may illegally tax or extort money and minerals, use forced labor, or commit other human rights abuses. Profits from these activities are often used to finance armed conflict. Mining organizations are expected to conduct due diligence to avoid involvement with armed groups or their affiliates through, for example, procuring minerals from, making payments to, or providing logistical assistance or equipment to these groups [358].

Although the security practices commonly used by mining organizations safeguard mine workers and assets in conflict-affected and high-risk areas, security personnel may sometimes be associated with human rights abuses. ASM operators, Indigenous Peoples, and human rights defenders, particularly women, are often severely affected by violence and harassment by security providers in these areas (see also topic 14.14 Security practices)

Organizations are also more likely to be implicated in corrupt practices, such as bribery and money laundering, in conflict-affected and high-risk areas. Where financial flows such as taxes, fees, and royalties paid to governments are not disclosed and remain opaque, these payments can end up financing conflict (see also topics 14.22 Anti-corruption and 14.23 Payments to governments).

30 According to Organisation for Economic Co-operation and Development (OECD), conflict-affected and high-risk areas are identified by the presence of armed conflict, widespread violence or other risks of harm to people. High-risk areas may include areas of political instability or repression, institutional weakness, insecurity, collapse of civil infrastructure and widespread violence [358].

31 International humanitarian law (IHL) is a set of rules that aim to limit the effects of armed conflict and protect individuals who are not or are no longer participating in the hostilities. IHL binds and provides a framework of standards for state and non-state actors, including organizations whose activities are linked to armed conflict, that is distinct from that established under human rights law.

Reporting on conflict-affected and high-risk areas

If the organization has determined conflict-affected and high-risk areas to be a material topic, this sub-section lists the disclosures identified as relevant for reporting on the topic by the mining sector.

STANDARD	DISCLOSURE	SECTOR STANDARD REF #
Management of the topic		
GRI 3: Material Topics 2021	Disclosure 3-3 Management of material topics *Additional sector recommendations* • Describe the approach to ensuring adherence to international humanitarian law when operating in conflict-affected and high-risk areas.	14.25.1
Additional sector disclosures		
List the locations of operations in conflict-affected or high-risk areas and how these were identified.[32]		14.25.2
Describe the due diligence process applied for operations in, or when sourcing from, conflict-affected and high-risk areas and whether it aligns with the *OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas*.		14.25.3
For operations in conflict-affected or high-risk areas, report the potential negative impacts on workers and local communities, including actions to prevent or mitigate the impacts.		14.25.4

References and resources

The authoritative instruments and references used in developing this topic, as well as resources that may be helpful for reporting on conflict-affected and high-risk areas by the mining sector are listed in the Bibliography.

32 For further guidance, including definitions for terms used in the additional sector disclosure, see Organisation for Economic Co-operation and Development (OECD), *Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas*, 2016 [358].

Glossary

This glossary provides definitions for terms used in this Standard. The organization is required to apply these definitions when using the GRI Standards.

The definitions included in this glossary may contain terms that are further defined in the complete *GRI Standards Glossary*. All defined terms are underlined. If a term is not defined in this glossary or in the complete *GRI Standards Glossary*, definitions that are commonly used and understood apply.

baseline
starting point used for comparisons

Note: In the context of energy and emissions reporting, the baseline is the projected energy consumption or emissions in the absence of any reduction activity.

basic salary
fixed, minimum amount paid to an employee for performing his or her duties

Note: Basic salary excludes any additional remuneration, such as payments for overtime working or bonuses.

benefit
direct benefit provided in the form of financial contributions, care paid for by the organization, or the reimbursement of expenses borne by the employee

Note: Redundancy payments over and above legal minimums, lay-off pay, extra employment injury benefit, survivors' benefits, and extra paid holiday entitlements can also be included as a benefit.

business partner
entity with which the organization has some form of direct and formal engagement for the purpose of meeting its business objectives

Source: Shift and Mazars LLP, *UN Guiding Principles Reporting Framework*, 2015; modified

Examples: affiliates, business-to-business customers, clients, first-tier suppliers, franchisees, joint venture partners, investee companies in which the organization has a shareholding position

Note: Business partners do not include subsidiaries and affiliates that the organization controls.

business relationships
relationships that the organization has with business partners, with entities in its value chain including those beyond the first tier, and with any other entities directly linked to its operations, products, or services

Source: United Nations (UN), *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework*, 2011; modified

Note: Examples of other entities directly linked to the organization's operations, products, or services are a non-governmental organization with which the organization delivers support to a local community or state security forces that protect the organization's facilities.

catchment
area of land from which all surface runoff and subsurface water flows through a sequence of streams, rivers, aquifers, and lakes into the sea or another outlet at a single river mouth, estuary, or delta

Source: Alliance for Water Stewardship (AWS), *AWS International Water Stewardship Standard, Version 1.0*, 2014; modified

Note: Catchments include associated groundwater areas and might include portions of waterbodies (such as lakes or rivers). In different parts of the world, catchments are also referred to as ‘watersheds’ or ‘basins’ (or sub-basins).

child
person under the age of 15 years, or under the age of completion of compulsory schooling, whichever is higher

Note 1: Exceptions can occur in certain countries where economies and educational facilities are insufficiently developed, and a minimum age of 14 years applies. These countries of exception are specified by the International Labour Organization (ILO) in response to a special application by the country concerned and in consultation with representative organizations of employers and workers.

Note 2: The ILO *Minimum Age Convention,* 1973, (No. 138), refers to both child labor and young workers.

circularity measures
measures taken to retain the value of products, materials, and resources and redirect them back to use for as long as possible with the lowest carbon and resource footprint possible, such that fewer raw materials and resources are extracted and waste generation is prevented

close call
work-related incident where no injury or ill health occurs, but which has the potential to cause these

Source: International Organization for Standardization. ISO 45001:2018. *Occupational health and safety management systems — Requirements with guidance for use.* Geneva: ISO, 2018; modified

Note: A ‘close call’ might also be referred to as a ‘near-miss’ or ‘near-hit’.

collective bargaining
all negotiations that take place between one or more employers or employers' organizations, on the one hand, and one or more workers' organizations (e.g., trade unions), on the other, for determining working conditions and terms of employment or for regulating relations between employers and workers

Source: International Labour Organization (ILO), *Collective Bargaining Convention*, 1981 (No. 154); modified

community development program
plan that details actions to minimize, mitigate, or compensate for adverse social and/or economic impacts, and/or to identify opportunities or actions to enhance positive impacts of a project on the community

conflict of interest
situation where an individual is confronted with choosing between the requirements of their function in the organization and their other personal or professional interests or responsibilities

corruption
‘abuse of entrusted power for private gain’, which can be instigated by individuals or organizations

Source: Transparency International, *Business Principles for Countering Bribery*, 2011

Note: Corruption includes practices such as bribery, facilitation payments, fraud, extortion, collusion, and money laundering. It also includes an offer or receipt of any gift, loan, fee, reward, or other advantage to or from any person as an inducement to do something that is dishonest, illegal, or a breach of trust in the conduct of the enterprise’s business. This can include cash or in-kind benefits, such as free goods, gifts, and holidays, or special personal services provided for the purpose of an improper advantage, or that can result in moral pressure to receive such an advantage.

direct (Scope 1) GHG emissions
greenhouse gas (GHG) emissions from sources that are owned or controlled by the organization

Examples: CO_2 emissions from fuel consumption

Note: A GHG source is any physical unit or process that releases GHG into the atmosphere.

discrimination
act and result of treating persons unequally by imposing unequal burdens or denying benefits instead of treating each person fairly on the basis of individual merit

Note: Discrimination can also include harassment, defined as a course of comments or actions that are unwelcome, or should reasonably be known to be unwelcome, to the person towards whom they are addressed.

disposal
any operation which is not recovery, even where the operation has as a secondary consequence the recovery of energy

Source: European Union (EU), *Waste Framework Directive*, 2008 (Directive 2008/98/EC)

Note: Disposal is the end-of-life management of discarded products, materials, and resources in a sink or through a chemical or thermal transformation that makes these products, materials, and resources unavailable for further use.

due diligence
process to identify, prevent, mitigate, and account for how the organization addresses its actual and potential negative impacts

Source: Organisation for Economic Co-operation and Development (OECD), *OECD Guidelines for Multinational Enterprises*, 2011; modified
United Nations (UN), *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework*, 2011; modified

Note: See section 2.3 in *GRI 1: Foundation 2021* for more information on 'due diligence'.

effluent
treated or untreated wastewater that is discharged

Source: Alliance for Water Stewardship (AWS), *AWS International Water Stewardship Standard, Version 1.0*, 2014

employee
individual who is in an employment relationship with the organization according to national law or practice

energy indirect (Scope 2) GHG emissions
greenhouse gas (GHG) emissions that result from the generation of purchased or acquired electricity, heating, cooling, and steam consumed by the organization

exposure
quantity of time spent at or the nature of contact with certain environments that possess various degrees and kinds of hazard, or proximity to a condition that might cause injury or ill health (e.g., chemicals, radiation, high pressure, noise, fire, explosives)

financial assistance
direct or indirect financial benefits that do not represent a transaction of goods and services, but which are an incentive or compensation for actions taken, the cost of an asset, or expenses incurred

Note: The provider of financial assistance does not expect a direct financial return from the assistance offered.

forced or compulsory labor
all work and service that is exacted from any person under the menace of any penalty and for which the said person has not offered herself or himself voluntarily

Source: International Labour Organization (ILO), *Forced Labour Convention*, 1930 (No. 29); modified

Note 1: The most extreme examples of forced or compulsory labor are slave labor and bonded labor, but debts can also be used as a means of maintaining workers in a state of forced labor.

Note 2: Indicators of forced labor include withholding identity papers, requiring compulsory deposits, and compelling workers, under threat of firing, to work extra hours to which they have not previously agreed.

formal joint management–worker health and safety committee
committee composed of management and worker representatives, whose function is integrated into an organizational structure, and which operates according to agreed written policies, procedures, and rules, and helps facilitate worker participation and consultation on matters of occupational health and safety

freedom of association
right of employers and workers to form, to join and to run their own organizations without prior authorization or interference by the state or any other entity

freshwater
water with concentration of total dissolved solids equal to or below 1,000 mg/L

Source: Environmental management — Water footprint — Principles, requirements and guidelines. Geneva: ISO, 2014; modified
United States Geological Survey (USGS), Water Science Glossary of Terms, *water.usgs.gov/edu/dictionary.html,* accessed on 1 June 2018; modified
World Health Organization (WHO), *Guidelines for Drinking-water Quality*, 2017; modified

greenhouse gas (GHG)
gas that contributes to the greenhouse effect by absorbing infrared radiation

grievance
perceived injustice evoking an individual's or a group's sense of entitlement, which may be based on law, contract, explicit or implicit promises, customary practice, or general notions of fairness of aggrieved communities

Source: United Nations (UN), *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework*, 2011

grievance mechanism
routinized process through which grievances can be raised and remedy can be sought

Source: United Nations (UN), *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework*, 2011; modified

Note: See Guidance to Disclosure 2-25 in *GRI 2: General Disclosures 2021* for more information on 'grievance mechanism'.

groundwater
water that is being held in, and that can be recovered from, an underground formation

Source: International Organization for Standardization. ISO 14046:2014. *Environmental management — Water footprint — Principles, requirements and guidelines*. Geneva: ISO, 2014; modified

hazardous waste
waste that possesses any of the characteristics contained in Annex III of the Basel Convention,

or that is considered to be hazardous by national legislation

Source: United Nations Environment Programme (UNEP), *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, 1989

high-consequence work-related injury
work-related injury that results in a fatality or in an injury from which the worker cannot, does not, or is not expected to recover fully to pre-injury health status within six months

human rights
rights inherent to all human beings, which include, at a minimum, the rights set out in the *United Nations (UN) International Bill of Human Rights* and the principles concerning fundamental rights set out in the *International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work*

Source: United Nations (UN), *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework*, 2011; modified

Note: See Guidance to 2-23-b-i in *GRI 2: General Disclosures 2021* for more information on 'human rights'.

impact
effect the organization has or could have on the economy, environment, and people, including on their human rights, which in turn can indicate its contribution (negative or positive) to sustainable development

Note 1: Impacts can be actual or potential, negative or positive, short-term or long-term, intended or unintended, and reversible or irreversible.

Note 2: See section 2.1 in *GRI 1: Foundation 2021* for more information on 'impact'.

indicator of diversity
indicator of diversity for which the organization gathers data

Examples: age, ancestry and ethnic origin, citizenship, creed, disability, gender

indigenous peoples
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.

Source: International Labour Organization (ILO), *Indigenous and Tribal Peoples Convention*, 1989 (No. 169)

infrastructure
facilities built primarily to provide a public service or good rather than a commercial purpose, and from which the organization does not seek to gain direct economic benefit

Examples: hospitals, roads, schools, water supply facilities

local community
individuals or groups of individuals living or working in areas that are affected or that could be affected by the organization's activities

Note: The local community can range from those living adjacent to the organization's operations to those living at a distance.

local supplier

organization or person that provides a product or service to the reporting organization, and that is based in the same geographic market as the reporting organization (that is, no transnational payments are made to a local supplier)

Note: The geographic definition of 'local' can include the community surrounding operations, a region within a country or a country.

material topics
topics that represent the organization's most significant impacts on the economy, environment, and people, including impacts on their human rights

Note: See section 2.2 in *GRI 1: Foundation 2021* and section 1 in *GRI 3: Material Topics 2021* for more information on 'material topics'.

mitigation
action(s) taken to reduce the extent of a negative impact

Source: United Nations (UN), *The Corporate Responsibility to Respect Human Rights: An Interpretive Guide*, 2012; modified

Note: The mitigation of an actual negative impact refers to actions taken to reduce the severity of the negative impact that has occurred, with any residual impact needing remediation. The mitigation of a potential negative impact refers to actions taken to reduce the likelihood of the negative impact occurring.

occupational health and safety management system
set of interrelated or interacting elements to establish an occupational health and safety policy and objectives, and to achieve those objectives

Source: International Labour Organization (ILO), *Guidelines on Occupational Safety and Health Management Systems, ILO-OSH 2001*, 2001

other indirect (Scope 3) GHG emissions
indirect greenhouse gas (GHG) emissions not included in energy indirect (Scope 2) GHG emissions that occur outside of the organization, including both upstream and downstream emissions

parental leave
leave granted to men and women employees on the grounds of the birth of a child

preparation for reuse
checking, cleaning, or repairing operations, by which products or components of products that have become waste are prepared to be put to use for the same purpose for which they were conceived

Source: European Union (EU), *Waste Framework Directive*, 2008 (Directive 2008/98/EC); modified

recovery
operation wherein products, components of products, or materials that have become waste are prepared to fulfill a purpose in place of new products, components, or materials that would otherwise have been used for that purpose

Source: United Nations Environment Programme (UNEP), *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, 1989; modified

Examples: preparation for reuse, recycling

Note: In the context of waste reporting, recovery operations do not include energy recovery.

recycling
reprocessing of products or components of products that have become waste, to make new materials

Sources: United Nations Environment Programme (UNEP), *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, 1989; modified

reduction of greenhouse gas (GHG) emissions
decrease in greenhouse gas (GHG) emissions or increase in removal or storage of GHG from the atmosphere, relative to baseline emissions

Note: Primary effects will result in GHG reductions, as will some secondary effects. An initiative's total GHG reductions are quantified as the sum of its associated primary effect(s) and any significant secondary effects (which may involve decreases or countervailing increases in GHG emissions).

remedy / remediation
means to counteract or make good a negative impact or provision of remedy

Source: United Nations (UN), *The Corporate Responsibility to Respect Human Rights: An Interpretive Guide*, 2012; modified

Examples: apologies, financial or non-financial compensation, prevention of harm through injunctions or guarantees of non-repetition, punitive sanctions (whether criminal or administrative, such as fines), restitution, restoration, rehabilitation

remuneration
basic salary plus additional amounts paid to a worker

Note: Examples of additional amounts paid to a worker can include those based on years of service, bonuses including cash and equity such as stocks and shares, benefit payments, overtime, time owed, and any additional allowances, such as transportation, living and childcare allowances.

renewable energy source
energy source that is capable of being replenished in a short time through ecological cycles or agricultural processes

Examples: biomass, geothermal, hydro, solar, wind

reporting period
specific time period covered by the reported information

Examples: fiscal year, calendar year

runoff
part of precipitation that flows towards a river on the ground surface (i.e., surface runoff) or within the soil (i.e., subsurface flow)

Source: United Nations Educational, Scientific and Cultural Organization (UNESCO), *UNESCO International Glossary of Hydrology*, 2012; modified

seawater
water in a sea or in an ocean

Source: International Organization for Standardization. ISO 14046:2014. *Environmental management — Water footprint — Principles, requirements and guidelines*. Geneva: ISO, 2014; modified

security personnel
individuals employed for the purposes of guarding property of the organization; crowd control; loss prevention; and escorting persons, goods, and valuables

services supported
services that provide a public benefit either through direct payment of operating costs or through staffing the facility or service with an organization's own employees

Note: Public benefit can also include public services.

severity (of an impact)
The severity of an actual or potential negative impact is determined by its scale (i.e., how grave the impact is), scope (i.e., how widespread the impact is), and irremediable character (how hard it is to counteract or make good the resulting harm).

Source: Organisation for Economic Co-operation and Development (OECD), *OECD Due Diligence Guidance for Responsible Business Conduct*, 2018; modified
United Nations (UN), *The Corporate Responsibility to Respect Human Rights: An Interpretive Guide*, 2012; modified

Note: See section 1 in *GRI 3: Material Topics 2021* for more information on 'severity'.

significant air emission
air emission regulated under international conventions and/or national laws or regulations

Note: Significant air emissions include those listed on environmental permits for the organization's operations.

significant operational change
alteration to the organization's pattern of operations that can potentially have significant positive or negative impacts on workers performing the organization's activities

Examples: closures, expansions, mergers, new openings, outsourcing of operations, restructuring, sale of all or part of the organization, takeovers

spill
accidental release of a hazardous substance that can affect human health, land, vegetation, waterbodies, and groundwater

stakeholder
individual or group that has an interest that is affected or could be affected by the organization's activities

Source: Organisation for Economic Co-operation and Development (OECD), *OECD Due Diligence Guidance for Responsible Business Conduct*, 2018; modified

Examples: business partners, civil society organizations, consumers, customers, employees and other workers, governments, local communities, non-governmental organizations, shareholders and other investors, suppliers, trade unions, vulnerable groups

Note: See section 2.4 in *GRI 1: Foundation 2021* for more information on 'stakeholder'.

supplier
entity upstream from the organization (i.e., in the organization's supply chain), which provides a product or service that is used in the development of the organization's own products or services

Examples: brokers, consultants, contractors, distributors, franchisees, home workers, independent contractors, licensees, manufacturers, primary producers, sub-contractors, wholesalers

Note: A supplier can have a direct business relationship with the organization (often referred to as a first-tier supplier) or an indirect business relationship.

supply chain
range of activities carried out by entities upstream from the organization, which provide products or services that are used in the development of the organization's own products or services

surface water
water that occurs naturally on the Earth's surface in ice sheets, ice caps, glaciers, icebergs, bogs, ponds, lakes, rivers, and streams

Source: CDP, *CDP Water Security Reporting Guidance*, 2018; modified

sustainable development / sustainability
development that meets the needs of the present without compromising the ability of future

generations to meet their own needs

Source: World Commission on Environment and Development, *Our Common Future*, 1987

Note: The terms 'sustainability' and 'sustainable development' are used interchangeably in the GRI Standards.

third-party water
municipal water suppliers and municipal wastewater treatment plants, public or private utilities, and other organizations involved in the provision, transport, treatment, disposal, or use of water and effluent

value chain
range of activities carried out by the organization, and by entities upstream and downstream from the organization, to bring the organization's products or services from their conception to their end use

Note 1: Entities upstream from the organization (e.g., suppliers) provide products or services that are used in the development of the organization's own products or services. Entities downstream from the organization (e.g., distributors, customers) receive products or services from the organization.

Note 2: The value chain includes the supply chain.

vulnerable group
group of individuals with a specific condition or characteristic (e.g., economic, physical, political, social) that could experience negative impacts as a result of the organization's activities more severely than the general population

Examples: children and youth; elderly persons; ex-combatants; HIV/AIDS-affected households; human rights defenders; indigenous peoples; internally displaced persons; migrant workers and their families; national or ethnic, religious and linguistic minorities; persons who might be discriminated against based on their sexual orientation, gender identity, gender expression, or sex characteristics (e.g., lesbian, gay, bisexual, transgender, intersex); persons with disabilities; refugees or returning refugees; women

Note: Vulnerabilities and impacts can differ by gender.

waste
anything that the holder discards, intends to discard, or is required to discard

Source: United Nations Environment Programme (UNEP), *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, 1989

Note 1: Waste can be defined according to the national legislation at the point of generation.

Note 2: A holder can be the reporting organization, an entity in the organization's value chain upstream or downstream (e.g., supplier or consumer), or a waste management organization, among others.

water consumption
sum of all water that has been withdrawn and incorporated into products, used in the production of crops or generated as waste, has evaporated, transpired, or been consumed by humans or livestock, or is polluted to the point of being unusable by other users, and is therefore not released back to surface water, groundwater, seawater, or a third party over the course of the reporting period

Source: CDP, *CDP Water Security Reporting Guidance*, 2018; modified

Note: Water consumption includes water that has been stored during the reporting period for use or discharge in a subsequent reporting period.

water discharge

sum of effluents, used water, and unused water released to surface water, groundwater, seawater, or a third party, for which the organization has no further use, over the course of the reporting period

Note 1: Water can be released into the receiving waterbody either at a defined discharge point (point-source discharge) or dispersed over land in an undefined manner (non-point-source discharge).

Note 2: Water discharge can be authorized (in accordance with discharge consent) or unauthorized (if discharge consent is exceeded).

water stress
ability, or lack thereof, to meet the human and ecological demand for water

Source: CEO Water Mandate, *Corporate Water Disclosure Guidelines*, 2014

Note 1: Water stress can refer to the availability, quality, or accessibility of water.

Note 2: Water stress is based on subjective elements and is assessed differently depending on societal values, such as the suitability of water for drinking or the requirements to be afforded to ecosystems.

Note 3: Water stress in an area may be measured at catchment level at a minimum.

water withdrawal
sum of all water drawn from surface water, groundwater, seawater, or a third party for any use over the course of the reporting period

worker
person that performs work for the organization

Examples: employees, agency workers, apprentices, contractors, home workers, interns, self-employed persons, sub-contractors, volunteers, and persons working for organizations other than the reporting organization, such as for suppliers

Note: In the GRI Standards, in some cases, it is specified whether a particular subset of workers is required to be used.

worker consultation
seeking of workers' views before making a decision

Note 1: Worker consultation might be carried out through workers' representatives.

Note 2: Consultation is a formal process, whereby management takes the views of workers into account when making a decision. Therefore, consultation needs to take place before the decision is made. It is essential to provide timely information to workers or their representatives in order for them to provide meaningful and effective input before decisions are made. Genuine consultation involves dialogue.

Note 3: Worker participation and worker consultation are two distinct terms with specific meanings. See definition of 'worker participation'.

worker participation
workers' involvement in decision-making

Note 1: Worker participation might be carried out through workers' representatives.

Note 2: Worker participation and worker consultation are two distinct terms with specific meanings. See definition of 'worker consultation'.

worker representative
person who is recognized as such under national law or practice, whether they are:

- a trade union representative, namely, a representative designated or elected by trade unions or by members of such unions; or
- an elected representative, namely, a representative who is freely elected by the workers of the undertaking in accordance with provisions of national laws, regulations, or collective

agreements, whose functions do not include activities which are recognized as the exclusive prerogative of trade unions in the country concerned.

Source: International Labour Organization (ILO), *Workers' Representatives Convention*, 1971 (No. 135)

work-related hazard
source or situation with the potential to cause injury or ill health

Source: International Labour Organization (ILO) *Guidelines on Occupational Safety and Health Management Systems,* 2001; modified
International Organization for Standardization. ISO 45001:2018. *Occupational health and safety management systems — Requirements with guidance for use.* Geneva: ISO, 2018; modified
Definitions that are based on or come from the ISO 14046:2014 and ISO 45001:2018 standards are reproduced with the permission of the International Organization for Standardization, ISO. Copyright remains with ISO.

Note: Hazards can be:
- physical (e.g., radiation, temperature extremes, constant loud noise, spills on floors or tripping hazards, unguarded machinery, faulty electrical equipment);
- ergonomic (e.g., improperly adjusted workstations and chairs, awkward movements, vibration);
- chemical (e.g., exposure to solvents, carbon monoxide, flammable materials, or pesticides);
- biological (e.g., exposure to blood and bodily fluids, fungi, bacteria, viruses, or insect bites);
- psychosocial (e.g., verbal abuse, harassment, bullying);
- related to work-organization (e.g., excessive workload demands, shift work, long hours, night work, workplace violence).

work-related incident
occurrence arising out of or in the course of work that could or does result in injury or ill health

Source: International Organization for Standardization. ISO 45001:2018. *Occupational health and safety management systems — Requirements with guidance for use.* Geneva: ISO, 2018; modified
Definitions that are based on or come from the ISO 14046:2014 and ISO 45001:2018 standards are reproduced with the permission of the International Organization for Standardization, ISO. Copyright remains with ISO.

Note 1: Incidents might be due to, for example, electrical problems, explosion, fire; overflow, overturning, leakage, flow; breakage, bursting, splitting; loss of control, slipping, stumbling and falling; body movement without stress; body movement under/with stress; shock, fright; workplace violence or harassment (e.g., sexual harassment).

Note 2: An incident that results in injury or ill health is often referred to as an ‘accident’. An incident that has the potential to result in injury or ill health but where none occurs is often referred to as a ‘close call', ‘near-miss’, or ‘near-hit’.

work-related injury or ill health
negative impacts on health arising from exposure to hazards at work

Source: International Labour Organization (ILO), *Guidelines on Occupational Safety and Health Management Systems, ILO-OSH 2001*, 2001; modified

Note 1: ‘Ill health’ indicates damage to health and includes diseases, illnesses, and disorders. The terms ‘disease’, ‘illness’, and ‘disorder’ are often used interchangeably and refer to conditions with specific symptoms and diagnoses.

Note 2: Work-related injuries and ill health are those that arise from exposure to hazards at work. Other types of incident can occur that are not connected with the work itself. For example, the following incidents are not considered to be work related:

- a worker suffers a heart attack while at work that is unconnected with work;
- a worker driving to or from work is injured in a car accident (where driving is not part of the work, and where the transport has not been organized by the employer);
- a worker with epilepsy has a seizure at work that is unconnected with work.

Note 3: *Traveling for work:* Injuries and ill health that occur while a worker is traveling are work related if, at the time of the injury or ill health, the worker was engaged in work activities 'in the interest of the employer'. Examples of such activities include traveling to and from customer contacts; conducting job tasks; and entertaining or being entertained to transact, discuss, or promote business (at the direction of the employer).

Working at home: Injuries and ill health that occur when working at home are work related if the injury or ill health occurs while the worker is performing work at home, and the injury or ill health is directly related to the performance of work rather than the general home environment or setting.

Mental illness: A mental illness is considered to be work related if it has been notified voluntarily by the worker and is supported by an opinion from a licensed healthcare professional with appropriate training and experience stating that the illness is work related.

For more guidance on determining 'work-relatedness', see the United States Occupational Safety and Health Administration, *Determination of work-relatedness 1904.5*, https://www.osha.gov/pls/ oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9636, accessed on 1 June 2018.

Note 4: The terms 'occupational' and 'work-related' are often used interchangeably.

Bibliography

This section lists authoritative intergovernmental instruments and additional references used in developing this Standard, as well as resources that the organization can consult.

Introduction

1. European Communities, NACE Rev.2, Statistical classification of economic activities in the European Community (NACE), Eurostat, Methodologies and Working Papers, 2008.
2. Executive Office of the President, Office of Management and Budget, North American Industry Classification System (NAICS), 2017.
3. FTSE Russell, ICB Structure. Taxonomy Overview, 2019.
4. International Institute for Environment and Development (IIED), *Artisanal and small-scale mining: Challenges and opportunities*, 2003.
5. S&P Dow Jones Indices and MSCI Inc., Revisions to the Global Industry Classification Standard (GICS®) Structure, 2018.
6. Sustainable Accounting Standards Boards (SASB), Sustainable Industry Classification System® (SICS®), org/find-your-industry/, accessed on 24 November 2023.
7. United Nations, International Standard Industrial Classification of All Economic Activities, Revision 4, Statistical Papers Series M No. 4/Rev.4, 2008.
8. World Bank, *Mining Together, Large-scale Mining Meets Artisanal Mining*, 2009.

Sector profile

Authoritative instruments:

9. Organisation for Economic Co-operation and Development (OECD), *Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractives Sector*, 2015.
10. Organisation for Economic Co-operation and Development (OECD), *Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas*, 2016.
11. United Nations (UN) Resolution, *Transforming our world: the 2030 Agenda for Sustainable Development*, 2015 (A/RES/70/1).

Additional references:

12. Danish Institute for Human Rights, *Towards Gender-Responsive Implementation of Extractive Industries Projects*, 2019.
13. E. Lebre, M. Stringer, K. Svobodova, J. Owen, D. Kemp, C. Cote, A. Arratia-Solar, and R. Valenta, “The social and environmental complexities of extracting energy transition metals,” *Nature*, 24 September 2020.
14. Georgetown Institute for Women, Peace and Security and Peace Research Institute Oslo, *Women, Peace, and Security Index 2021/22: Tracking sustainable peace through inclusion, justice, and security for women*, 2021.
15. IndustriAll, *Risks of gender-based violence and harassment: union responses in the mining, garments and electronics sectors*, 2022.
16. Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF) *Global Review: Integrating Gender Into Mining Impact Assessments*, 2022.
17. International Conference on the Great Lakes Region (ICGLR), *The ICGLR Regional Initiative against the Illegal Exploitation of Natural Resources (RINR) and other Certification Mechanisms in the Great Lakes Region: Lessons Learned and Best practices*, 2013.
18. International Council on Mining and Metals (ICMM), *Diversity, Equity and Inclusion: Position Statement*, 2023.
19. International Council on Mining and Metals (ICMM), *Role of mining in national economies*, 2016.
20. International Energy Agency (IEA), *The Role of Critical Minerals in Clean Energy Transitions*, 2021.
21. International Finance Corporation (IFC), World Bank, *The Business Case for Gender-Responsive Climate-Smart Mining*, 2022.
22. International Institute for Sustainable Development (IISD), *Green Conflict Minerals: The fuels of conflict in the transition to a low-carbon economy*, 2018.
23. International Labour Organization (ILO), *Women in Mining: towards gender equality*, 2021.
24. International Monetary Fund (IMF), *Fiscal Transparency Initiative: Integration Of Natural Resource Management*

Issues, 2019.
25. J. Owen, D. Kemp, J. Harris, A. Lechner, and E. Lebre, "Fast track to failure? Energy transition minerals and the future of consultation and consent," *Energy Research & Social Science*, July 2022.
26. OxFam, Australian Aid, *A Guide to Gender Impact Assessment for the Extractive Industries*, 2017.
27. Women and Mining, *Stakeholder Statement on Implementing Gender-Responsive Due Diligence and ensuring the human rights of women in the Mineral Supply Chains*, 2019.
28. World Bank, *Minerals for Climate Action: The Mineral Intensity of the Clean Energy Transition*, 2020.
29. World Nuclear Association, Sustaining Global Best Practices in Uranium Mining and Processing Principles for Managing Radiation, Health and Safety, Waste and the Environment, https://world-nuclear.org/our-association/publications/technical-position-papers/best-practice-in-uranium-mining.aspx, accessed on 24 November 2023.

Resources:

30. Extractive Industries Transparency Initiative (EITI), *Requirement 2.6: State participation and state-owned enterprises*, EITI Standard, 2020.
31. GRI and UN Global Compact*, Integrating the SDGs into corporate reporting: A practical guide*, 2018.
32. GRI, *Linking the SDGs and the GRI Standards*, updated regularly.
33. Intergovernmental Forum on Mining, Minerals, Metals, and Sustainable Development (IGF), *Global Review: Integrating Gender Into Mining Impact Assessments*, 2022.
34. United Nations Development Programme (UNDP), *Mapping Mining to the SDGs: An Atlas*, 2016.

Topic 14.1 GHG emissions

Authoritative instruments:

35. Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2022: Impacts, Adaptation and Vulnerability*, 2022.
36. Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2014: Synthesis Report*, 2014.
37. Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2021: The Physical Science Basis*, 2021.
38. Intergovernmental Panel on Climate Change (IPCC), *In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report,* 2014.
39. Intergovernmental Panel on Climate Change (IPCC), *Sixth Assessment Report—Working Group 1 Contribution*, 2021.
40. Intergovernmental Panel on Climate Change (IPCC), *Special Report on Climate Change and Land*, 2019.
41. Intergovernmental Panel on Climate Change (IPCC), *Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways*, 2019.
42. United Nations, Framework Convention on Climate Change, *The Paris Agreement*, 2016.

Additional references:

43. M. Azadi, S. A. Northey, S. H. Ali, and M. Edraki, *Transparency on greenhouse gas emissions from mining to enable climate change mitigation*, 2020.
44. Bachner et. al, 'Risk assessment of the low-carbon transition of Austria's steel and electricity sectors', Environmental Innovation and Societal Transitions**,** 2020.
45. Ceres*, Benchmarking Methane and Other GHG Emissions,* 2021.
46. ESI Africa, How mining plans to drive down carbon emissions, https://www.esi-africa.com/business-and-markets/how-mining-plans-to-drive-down-carbon-emissions/, accessed on 24 November 2023.
47. International Council on Mining and Metals (ICMM), *Adapting to a changing climate*, 2019.
48. International Energy Agency (IEA), Sustainable and responsible development of minerals, https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions/sustainable-and-responsible-development-of-minerals, accessed on 24 November 2023.
49. International Finance Corporation (IFC), *Environmental, Health, and Safety Guidelines for Mining*, 2007.
50. Organisation for Economic Co-operation and Development, *Aligning policies for a low-carbon economy*, 2015.
51. Sonter, Laura J et. al. *Mining drives extensive deforestation in the Brazilian Amazon*, 2017.
52. United States Energy Information Administration (EIA), How much carbon dioxide is produced per kilowatthour of U.S. electricity generation?, https://www.eia.gov/tools/faqs/faq.php?id=74&t=11, accessed on 24 November

2023.
53. World Steel, *Climate change and the production of iron and steel*, 2021.

Resources:

54. Greenhouse Gas Protocol, *Corporate Value Chain (Scope 3) Accounting and Reporting Standard*, 2011.
55. Greenhouse Gas Protocol, *Global Warming Potential Values*, 2015.
56. Greenhouse Gas Protocol, *Land Sector and Removals Guidance*, 2023.
57. Intergovernmental Panel on Climate Change (IPCC), *Guidelines for National Greenhouse Gas Inventories: Reference Manual: Land-use change and forestry*, 1996.
58. Intergovernmental Panel on Climate Change (IPCC), *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*, 2001.
59. Intergovernmental Panel on Climate Change (IPCC), *Good Practice Guidance for Land Use, Land-Use Change and Forestry*, 2003.
60. Intergovernmental Panel on Climate Change (IPCC), *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 4 Agriculture, Forestry and Other Land Use,* 2019.
61. Mining Association of Canada, *Towards Sustainable Mining (TSM) Climate Change Protocol*, 2021.
62. Science-Based Targets, *Science-Based Target Setting Manual,* version 4.1, 2020.

Topic 14.2 Climate adaptation and resilience

Authoritative instruments:

63. Intergovernmental Panel on Climate Change (IPCC), *Global Warming of 1.5°C*, 2018.
64. Intergovernmental Panel on Climate Change (IPCC), *Sixth Assessment Report—Working Group 1 Contribution*, 2021.
65. Intergovernmental Panel on Climate Change (IPCC), *Sixth Assessment Report – Working Group 2, Climate Change 2022: Impacts, Adaptation and Vulnerability,* 2022.
66. International Council on Mining and Metals (ICMM), Mitigating GHG emissions and building resilience, https://www.icmm.com/en-gb/environment/climate-change/mitigate-ghg-emissions, accessed on 24 November 2023.
67. United Nations, Framework Convention on Climate Change, *The Paris Agreement,* 2016.

Additional references:

68. Business and Human Rights Resource Center, Transition Minerals Tracker: Global analysis of human rights in the energy transition.
69. International Energy Agency (IEA), *The Role of Critical Minerals in Clean Energy Transitions*, 2021.
70. International Finance Corporation (IFC), World Bank, *The Business Case for Gender-Responsive Climate-Smart Mining*, 2022.
71. Organisation for Economic Co-operation and Development (OECD), *Mining and Green Growth in the EECCA Region*, 2019.
72. M. Pelling, *Adaptation to Climate Change: From Resilience to Transformation*, 2011.
73. Responsible Mining Foundation (RMF), Beyond emissions reductions: climate change and mining, 2021.
74. United Nations Environment Programme (UNEP), International Resource Panel (IRP), *Metal Recycling: Opportunities, Limits, Infrastructure*, 2013.
75. United States Agency for International Development (USAID), *Mining and the green energy transition*, 2021.
76. World Bank, Climate-Smart Mining: Minerals for Climate Action, https://www.worldbank.org/en/topic/extractiveindustries/brief/climate-smart-mining-minerals-for-climate-action, accessed on 24 November 2023.
77. World Wildlife Foundation (WWF), *Boom in Raw Materials: Between Profits and Losses*, 2018.

Resources:

78. Mining Association of Canada, *Towards Sustainable Mining (TSM) Guide on Climate Change Adaptation for the Mining Sector*, 2021.
79. Task Force on Climate-Related Financial Disclosure (TCFD), *Guidance on Climate-related Metrics, Targets, and Transition Plans*, 2021.
80. Task Force on Climate-Related Financial Disclosure (TCFD), *Guidance on Scenario Analysis for Non-Financial Companies*, 2020.

81. Task Force on Climate-Related Financial Disclosure (TCFD), *Recommendations of the Task Force on Climate-related Financial Disclosure*, 2017.
82. Task Force on Climate-Related Financial Disclosure (TCFD), *The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities*, 2017.

Topic 14.3 Air emissions

References:

83. Australian Government Department of Agriculture, Water and the Environment, Australian National Pollutant Inventory, http://www.npi.gov.au/, accessed on 24 November 2023.
84. Australian New South Wales Government, Mine dust and you, https://www.health.nsw.gov.au/environment/factsheets/Pages/mine-dust-and-you.aspx, accessed on 24 November 2023.
85. Q. B. Tran, M. Lohitnavy, and T. Phenrat, 'Assessing potential hydrogen cyanide exposure from cyanide-contaminated mine tailing management practices in Thailand's gold mining', *Journal of Environmental Management*, 1 November 2019.
86. United Nations Development Programme (UNDP), *Managing mining for sustainable development*, 2018.
87. United Nations Economic Commission for Europe (UNECE), Air pollution, ecosystems and biodiversity, https://unece.org/air-pollution-ecosystems-and-biodiversity, accessed on 24 November 2023.
88. United States Environmental Protection Agency, Mining (except Oil and Gas) Sector (NAICS 212), https://www.epa.gov/regulatory-information-sector/mining-except-oil-and-gas-sector-naics-212, accessed on 24 November 2023.
89. World Health Organization (WHO), *Air pollution and child health: Prescribing clean air*, advance copy, 2018.
90. World Health Organization (WHO), Air pollution, who.int/health-topics/air-pollution, accessed on 24 November 2023.
91. World Health Organization (WHO), *Ambient Air Pollution: A Global Assessment of Exposure and Burden of Disease*, 2016.

Resources:

92. Initiative for Responsible Mining Assurance (IRMA), *Standard for Responsible Mining*, 2018.
93. International Finance Corporation (IFC), *Environmental, Health, and Safety Guidelines for Mining*, 2007.
94. The Cyanide Code, The International Cyanide Management Code For the Manufacture, Transport, and Use of Cyanide in the Production of Gold, https://cyanidecode.org/the-cyanide-code/, accessed on 24 November 2023.

Topic 14.4 Biodiversity

Authoritative instruments:

95. Convention on Biological Diversity, *Mainstreaming of Biodiversity into the Energy and Mining Sectors*, 2018.
96. Intergovernmental Panel on Climate Change (IPCC), *Climate Change and Biodiversity*, 2002.
97. Intergovernmental Panel on Climate Change (IPCC), *Climate Change and Land*, 2019.
98. Intergovernmental Panel on Climate Change (IPCC), *Sixth Assessment Report—Working Group 1 Contribution*, 2021.
99. United Nations Environmental Programme (UNEP), *Convention on Biological Diversity*, 1992.

Additional references:

100. Alliance for Responsible Mining (ARM), *Forest-Smart Artisanal and Small-Scale Mining Standard*, 2019.
101. Blum, Stewart, and Schroeder, *Effects of large-scale gold mining on migratory behavior of a large herbivore*, 2015.
102. Convention on Biological Diversity, *Mainstreaming of Biodiversity into the Energy and Mining Sectors*, 2018.
103. Cross Sector Biodiversity Initiative (CSBI), *A cross sector guide for implementing the Mitigation Hierarchy*, 2015.
104. Cross Sector Biodiversity Initiative (CSBI), Homepage, http://www.csbi.org.uk/, accessed on 24 November 2023.
105. International Union for Conservation of Nature (IUCN), Deep-sea mining, https://www.iucn.org/resources/issues-brief/deep-sea-mining, accessed on 24 November 2023.
106. International Union for Conservation of Nature (IUCN), Homepage, icun.org, accessed on 24 November 2023.
107. Mongabay, Elephant corridors impacted as mining expands in Jharkhand, https://india.mongabay.com/2022/02/elephant-corridors-impacted-as-mining-expands-in-jharkhand/, accessed

on 24 November 2023.
108. United Nations Environment Programme (UNEP), Moving the global mining industry towards biodiversity awareness, https://www.unep.org/news-and-stories/story/moving-global-mining-industry-towards-biodiversity-awareness, accessed on 20 June 2022.
109. United Nations Environment Programme (UNEP), World Conservation Monitoring Centre (WCMC), Proteus Partnership, https://unep-wcmc.org/en/Proteus, accessed on 24 November 2023.
110. World Bank, *Forest-Smart Mining: Identifying Factors Associated with the Impacts of Large-Scale Mining on Forests*, 2019.
111. World Wildlife Foundation (WWF), *Extractive Industry: Its Interactions with Conservation and Management of Ecosystems in Central Africa*, 2017.

Resources:

112. International Council for Mining and Metals (ICMM), International Petroleum Industry Environmental Conservation Association (IPIECA), *Equator Principles, A cross-sector guide for implementing the Mitigation Hierarchy*, 2017.
113. International Finance Corporation (IFC), *Performance Standard 6: Biodiversity Conservation and Sustainable Management of Natural Resources*, 2012.
114. Mining Association of Canada, Towards Sustainable Mining (TSM), *Biodiversity Conservation Management Protocol*, 2020.
115. United Nations Environmental Programme (UNEP), World Conservation Monitoring Centre (WCMC), Biodiversity A-Z, https://www.biodiversitya-z.org/, accessed on 24 November 2023.

Topic 14.5 Waste

Authoritative instruments:

116. European Commission, *Best Available Techniques (BAT) Reference Document for the Management of Waste from Extractive Industries*, 2018.
117. Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2014: Mitigation of Climate Change – Industry*, 2014.

Additional references:

118. Accenture, *Mining New Value From Circular Economy*, 2019.
119. Enviro Integration Strategies Inc. and MERG, *Towards a Circular Economy Approach to Mining Operations. Key Concepts, Drivers and Opportunities*, 2021.
120. European Commission, *Best Available Techniques (BAT) Reference Document for the Management of Waste from Extractive Industries*, 2018.
121. European Commission, Mining Waste, https://ec.europa.eu/environment/topics/waste-and-recycling/mining-waste_en, accessed on 24 November 2023.
122. Hudson-Edwards and Dold (eds.), *Mine Waste Characterization, Management and Remediation*, 2015.
123. International Council on Mining and Metals (ICMM), *Mining and Metals and the Circular Economy*, 2016.
124. International Council on Mining and Metals (ICMM), About tailings, https://www.icmm.com/en-gb/our-work/innovation-for-sustainability/tailings/about-tailings, accessed on 24 November 2023.
125. United Nations Environment Programme (UNEP), *Towards a Pollution-Free Planet*, 2017

Resources:

126. International Council on Mining & Metals (ICMM), United Nations Environmental Programme (UNEP), Principles for Responsible Investment (PRI), *Global Tailings Review*, 2020.
127. International Finance Corporation (IFC), *Environmental, Health, and Safety Guidelines for Mining*, 2007.
128. International Finance Corporation (IFC), *Environmental, Health, and Safety Guidelines for Waste Management*, 2007.

Topic 14.6 Tailings

Authoritative instruments:

129. Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2014: Mitigation of Climate Change –*

Industry, 2014.
130. International Maritime Organization (IMO), *1996 Protocol to the Convention on the prevention of marine pollution by dumping of wastes and other matter, 1972*, 1996.

Additional references:

131. C. Roche, K. Thygesen, and E. Baker (Eds.), United Nations Environment Programme (UNEP), *Mine Tailings Storage: Safety Is No Accident. A UNEP Rapid Response Assessment*, 2017.
132. International Council on Mining and Metals (ICMM), About tailings, https://www.icmm.com/en-gb/our-work/innovation-for-sustainability/tailings/about-tailings, accessed on 24 November 2023.
133. United Nations Environment Programme (UNEP), *Towards a Pollution-Free Planet*, 2017.

Resources:

134. International Council on Mining & Metals (ICMM), United Nations Environmental Programme (UNEP), Principles for Responsible Investment (PRI), *Global Industry Standard on Tailings Management*, 2020.
135. International Finance Corporation (IFC), *Environmental, Health, and Safety Guidelines for Mining*, 2007.
136. Mining Association of Canada, *A Guide to the Management of Tailings Facilities*, 2017.
137. Mining Association of Canada, *Developing an Operation, Maintenance and Surveillance Manual for Tailings and Water Management Facilities*, 2013.
138. Mining Association of Canada, *Towards Sustainable Mining (TSM) Tailings Management Protocol*, 2022.

Topic 14.7 Water and effluents

Authoritative instruments:

139. Intergovernmental Panel on Climate Change (IPCC), *Sixth Assessment Report—Working Group 1 Contribution*, 2021.

Additional references:

140. D. Kemp, C. Bond, D. Franks, and C. Cote, *Mining, water and human rights: making the connection*, 2010.
141. OxFam, Australian Aid, *A Guide to Gender Impact Assessment For the Extractive Industries*, 2017.
142. Safe Drinking Water Foundation (SDWF), Mining and Water Pollution, https://www.safewater.org/fact-sheets-1/2017/1/23/miningandwaterpollution, accessed on 24 November 2023.
143. United Nations Development Programme (UNDP*), Extracting Good Practices; A Guide for Governments and Partners to Integrate Environment and Human Rights into the Governance of the Mining Sector,* 2018.
144. United Nations Environment Programme (UNEP), *Towards a Pollution-Free Planet*, 2017.
145. United States Environmental Protection Agency (EPA), Mineral Mining and Processing Effluent Guidelines, https://www.epa.gov/eg/mineral-mining-and-processing-effluent-guidelines, accessed on 24 November 2023.
146. United Nations Water, Water and Gender, https://www.unwater.org/water-facts/water-and-gender, accessed 24 November 2023.
147. United States Geographic Survey, Mining and Water Quality, https://www.usgs.gov/special-topics/water-science-school/science/mining-and-water-quality, accessed 24 November 2023.
148. WaterAid, *The Impact of Extractive Industries on the quantity and quality of drinking water*, 2018.
149. World Bank Independent Evaluation Group, *Managing Environmental and Social Risks in Development Policy Financing*, 2015.

Resources:

150. International Council for Mining and Metals (ICMM), *Water Stewardship Framework*, 2014.
151. International Council on Mining and Metals (ICMM), *Water Reporting: Good practice guide (2nd Edition)*, 2021.
152. Mining Association of Canada, *Towards Sustainable Mining (TSM) Water Stewardship Protocol*, 2018.
153. World Wildlife Foundation (WWF), WWF Water Risk Filter 6.0, https://waterriskfilter.org/, accessed on 24 November 2023.

Topic 14.8 Closure and rehabilitation

References:

154. D. Laurence, 'Optimisation of the mine closure process', *Journal of Cleaner Production*, 2006,

https://www.sciencedirect.com/science/article/abs/pii/S0959652605000399, accessed on 24 November 2023.
155. Economic Commission for Latin America and the Caribbean (ECLAC), https://www.cepal.org/en, accessed on 24 November 2023.
156. Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF), Environmental and Social Impact Assessments, https://www.igfmining.org/our-work/environmental-and-social-impact-assessments/, accessed on 24 November 2023.
157. Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF), *Global Review: Financial assurance governance for the post-mining transition*, 2021.
158. United Nations Environmental Programme (UNEP), *Managing mining for sustainable development*, 2018.

Resources:

159. International Council on Mining and Metals (ICMM), *Closure Maturity Framework*, 2022.
160. International Council on Mining and Metals (ICMM), *Financial concepts for mine closure*, 2019.
161. International Council on Mining and Metals (ICMM), *Integrated mine closure: Good practice guide (2nd edition)*, 2019.
162. Nevada Division of Environmental Protection, United States Department of Interior, Nevada Mining Association, Standardized Reclamation Cost Estimator, https://nvbond.org, accessed 24 November 2023.

Topic 14.9 Economic impacts

Authoritative instruments:

163. Organisation for Economic Co-operation and Development (OECD), *OECD Principles for Private Sector Participation in Infrastructure*, 2007.

Additional references:

164. K. Storey, 'Fly-in/Fly-out: Implications for Community Sustainability', *Sustainability, vol. 2, pp. 1161-1181, 2010.*
165. Organisation for Economic Co-operation and Development (OECD), *Collaborative Strategies for In-Country Shared Value Creation*, 2016.
166. Pitman and Toroskainen, *Beneath the Surface: The Case for Oversight of Extractive Industry Suppliers*, 2020.
167. United Nations Development Programme (UNDP), *Managing mining for sustainable development*, 2018.

Resources:

168. Extractive Industries Transparency Initiative (EITI), *EITI Standard*, 2023.
169. International Council on Mining and Metals (ICMM), *Social and Economic Reporting: Framework and Guidance*, 2022.
170. International Council on Mining and Metals (ICMM), Tools for Social Performance, https://www.icmm.com/en-gb/guidance/social-performance/tools-for-social-performance, accessed on 24 November 2023.
171. Mining Shared Value and GIZ GmbH, *Mining Local Procurement Reporting Mechanism*, 2017, https://miningsharedvalue.org/mininglprm.
172. Organisation for Economic Co-operation and Development (OECD), *Collaborative Strategies for In-Country Shared Value Creation*, 2016.

Topic 14.10 Local communities

Authoritative instruments:

173. Organisation for Economic Co-operation and Development (OECD), *Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractives Sector*, 2015.

Additional references:

174. M.S. Al-Hwaiti, H.J. Brumsack, and B. Schnetger, *Heavy metal contamination and health risk assessment in waste mine water dewatering using phosphate beneficiation processes in Jordan*, 2018.
175. C. Bempah and A. Ewusi, *Heavy metals contamination and human health risk assessment around Obuasi gold mine in Ghana*, 2016.
176. Cordaid, *When Oil, Gas or Mining Arrives in Your Area: Practical Guide for Communities, Civil Society and Local Government on the Social Aspects of Oil, Gas and Mining*, 2016.

177. G. Guo, B. Song, M. Lei, and Y. Wang, *Rare earth elements (REEs) in PM10 and associated health risk from the polymetallic mining region of Nandan County, China*, 2018.
178. International Council of Mining and Metals (ICMM), Community Development Toolkit, https://www.icmm.com/en-gb/guidance/social-performance/community-development-toolkit, accessed on 24 November 2023.
179. International Labour Organization (ILO), *Women in mining: towards gender equality*, 2021.
180. S.W. Lee, H.G. Cho, and S.O. Kim, *Comparisons of human risk assessment models for heavy metal contamination within abandoned metal mine areas in Korea*, 2018.
181. K. Li, T. Liang, L. Wang, and Z. Yang, *Contamination and health risk assessment of heavy metals in road dust in Bayan Obo Mining Region in Inner Mongolia, North China*, 2015.
182. Oxfam, The gendered impacts of mining, https://www.oxfam.org.au/what-we-do/economic-inequality/mining/the-gendered-impacts-of-mining/#:~:text=women%20can%20lose%20their%20traditional,affect%20the%20safety%20of%20women, accessed on 24 November 2023.
183. Publish What You Pay, *Reversing the resource curse through legislative community development,* 2021.
184. J. Song, Q. Liu, and Y. Sheng, *Distribution and risk assessment of trace metals in riverine surface sediments in gold mining area*, 2019.
185. The Advocates for Human Rights, *Promoting Gender Diversity and Inclusion in the Oil, Gas, and Mining Extractive Industries*, 2019.
186. United Nations Development Programme (UNDP), *Extracting Good Practices; A Guide for Governments and Partners to Integrate Environment and Human Rights into the Governance of the Mining Sector*, 2018.
187. World Bank, *Mining Community Development Agreements*, 2012.
188. World Bank, *Responsible Agricultural Investment (RAI) Knowledge into Action Notes*, 2018.

Resources:

189. International Finance Corporation (IFC), *Guidance Note 4 Community Health, Safety, and Security*, 2012.
190. International Finance Corporation (IFC), *Performance Standard 4: Community Health, Safety, and Security*, 2012.
191. International Finance Corporation (IFC), *Unlocking Opportunities for Women and Business: A Toolkit of Actions and Strategies for Oil, Gas, and Mining Companies*, 2018.
192. International Council on Mining and Metals (ICMM), *Social and Economic Reporting: Framework and Guidance*, 2022.
193. Mining Association of Canada, *Towards Sustainable Mining (TSM) Indigenous and Community Relationships Protocol*, 2019.
194. The Danish Institute for Human Rights, *Towards gender-responsive implementation of extractive industries projects*, 2019.
195. United Nations Environment Programme Financial Initiative (UNEP FI), Human Rights Guidance Tool for the Financial Sector, Mining and Metals, https://www.unepfi.org/humanrightstoolkit/mining.php, accessed on 24 November 2023.

Topic 14.11 Rights of Indigenous Peoples

Authoritative instruments:

196. International Labour Organisation (ILO), *Indigenous and Tribal Peoples Convention*, 1989 (No. 169).
197. United Nations (UN), *United Nations Declaration on the Rights of Indigenous Peoples,* 2007.

Additional references:

198. T. E. Downing, J. Moles, I. McIntosh, and C. Garcia-Downing, *Indigenous peoples and mining encounters: Strategies and tactics.*IIED and WBCSD, Mining, Minerals and Sustainable Development, Report, 57, 41, 2002.
199. Erica-Irene A. Daes, United Nations (UN), *Indigenous peoples' permanent sovereignty over natural resources: final report of the Special Rapporteur,* 2004.
200. International Council on Mining and Metals (ICMM), *Indigenous Peoples and Mining: Good Practice Guide*, 2015.
201. J. Burger, Indigenous Peoples, *Extractive Industries and Human Rights*, 2014.
202. Share, *Energy and mining investment,* 2022.
203. The Mining Association of Canada (TSM), *TSM Indigenous and Community Relationships Protocol*, 2021.
204. United Nations Educational, Scientific and Cultural Organization (UNESCO), *UNESCO policy on engaging with*

indigenous peoples, 2018.
205. United Nations Human Rights Council (HRC), *Report of the Special Rapporteur on the rights 1972 of indigenous peoples, James Anaya -Extractive industries and indigenous peoples,* 2013.
206. United Nations Human Rights Council (HRC), *Report of the Special Rapporteur on the rights of indigenous peoples, James Anaya – Extractive industries and indigenous peoples*, 2013.
207. United Nations Human Rights, *General Assembly resolution: Permanent sovereignty over natural resources,* 1962 (No. 1803).
208. United Nations Permanent Forum on Indigenous Issues (UNPFII), *Combating violence against indigenous women and girls: article 22 of the United Nations Declaration on the Rights of Indigenous Peoples*, 2012.
209. United Nations Permanent Forum on Indigenous Issues (UNPFII), *Report of the international expert group meeting on extractive industries, Indigenous Peoples' rights and corporate social responsibility*, 2009.

Resources:

210. International Finance Corporation (IFC), *Performance Standard 7: Indigenous Peoples*, 2012.
211. International Finance Corporation (IFC), *Performance Standard 8: Cultural Heritage*, 2006.

Topic 14.12 Land and resource rights

Authoritative instruments:

212. European Union and UN Interagency Framework Team for Preventive Action*, Toolkit and Guidance for Preventing and Managing Land and Natural Resources Conflict: Land and Conflict,* 2012.
213. Organisation for Economic Co-operation and Development (OECD), *Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractives Sector*, 2015.

Additional references:

214. International Institute for Environment and Development (IIED), Land acquisitions and rights, https://www.iied.org/theme/land-acquisitions-rights, accessed on 24 November 2023.
215. P. D. Cameron and M. C. Stanley, *Oil, Gas, and Mining: A Sourcebook for Understanding the Extractive Industries*, 2017.
216. The Advocates for Human Rights, *Promoting Gender Diversity and Inclusion in the Oil, Gas, and Mining Extractive Industries*, 2019.
217. United Nations Development Programme (UNDP), *Managing mining for sustainable development,* 2018.
218. United Nations Human Rights Office of the High Commissioner, Land and Human Rights, ohchr.org/EN/Issues/LandAndHR/Pages/LandandHumanRightsIndex.aspx, accessed 24 November 2023.

Resources:

219. International Council on Mining & Metals (ICMM), *Land Acquisition and Resettlement*, 2015.
220. International Finance Corporation (IFC), *Performance Standards 5: Land Acquisition and Involuntary Resettlement,* 2012.
221. The Danish Institute for Human Rights, *Towards gender-responsive implementation of extractive industries projects*, 2019.
222. United Nations Environment Programme Financial Initiative (UNEP FI), Human Rights Guidance Tool for the Financial Sector, Mining and Metals, https://www.unepfi.org/humanrightstoolkit/mining.php, accessed on 24 November 2023.

Topic 14.13 Artisanal and small-scale mining

Authoritative instruments:

223. International Conference on Artisanal and Small-scale Mining & Quarrying, *Annex 1 Mosi-oa-Tunya Declaration on Artisanal and Small-scale Mining, Quarrying and Development*, 2018.
224. Organisation for Economic for Co-operation and Development (OECD), *Due Diligence Guidance for responsible mineral supply chains from conflict-affected and high-risk areas*, 2016.

References:

225. Alliance for Responsible Mining (ARM), Geneva Centre for Security Sector Governance (DCAF), *Practical Guidance on human rights and security in ASM,* 2021.
226. Alliance for Responsible Mining (ARM), *Principles of Peaceful Coexistence between Mining Titleholders and*

ASM Miners, 2020.
227. Geneva Centre for Security Sector Governance (DCAF), *Addressing Security and Human Rights Challenges in Complex Environments: A Practical Toolkit*, 2022.
228. Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF), *Global Trends in Artisanal and Small-scale Mining (ASM): A Review of Key Numbers and Issues*, 2017.
229. Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF), IGF's New Resources Look at ASM Through a Gender Lens, https://www.igfmining.org/announcement/asm-through-gender-lens/, accessed on 24 November 2023.
230. International Finance Corporation (IFC), World Bank, *Working together: how large-scale mining can engage with artisanal and small-scale miners*, 2010.
231. International Institude for Environment and Development (IIED), *Artisanal and small-scale mining: Challenges and opportunities*, 2003.
232. Organisation for Economic for Co-operation and Development (OECD), Artisanal and small-scale gold mining, https://www.oecd.org/corporate/mne/artisanal-small-scale-miner-hub.htm, accessed on 24 November 2023.
233. World Bank Group, Profor, *Forest-Smart Mining: Identifying Factors Associated with the Impacts of Large-Scale Mining on Forests*, 2019.
234. World Bank, *2020 State of the Artisanal and Small Scale Mining Sector*, 2020,
235. World Bank, Artisanal and Small-Scale Mining, https://www.worldbaorg/en/topic/extractiveindustries/brief/artisanal-and-small-scale-mining, accessed on 24 November 2023.

Resources:

236. CRAFT, Code for the mitigation of Risks in Artisanal and small-scale mining, https://www.craftmines.org/en/, accessed 24 November 2023.
237. DELVE, Global Number of People Working in ASM, https://delvedatabase.org/data, accessed 24 November 2023.
238. Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF), *IGF Guidance for Governments: Managing artisanal and small-scale mining*, 2017.
239. The Danish Institute for Human Rights, *Towards gender-responsive implementation of extractive industries projects*, 2019.

Topic 14.14 Security practices

Authoritative instruments:

240. Office of the High Commissioner for Human Rights (OHCR), *Basic Principles on the Use of Force and Firearms by Law Enforcement Officials*, 1990.
241. Office of the High Commissioner for Human Rights (OHCR), *Code of Conduct for Law Enforcement Officials*, 1979.
242. Organisation for Economic Co-operation and Development (OECD), *Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas*, 2016.
243. United Nations (UN), *Declaration on human rights defenders*, 1998 (General Assembly Resolution A/RES/53/144).
244. United Nations (UN), *Escazú Agreement: Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean*, 2018.

References:

245. Global Witness, *Decade of defiance*, 2022.
246. Institute for Human Rights and Business (IHRB), *From Red to Green Flags: The Corporate Responsibility to Respect Human Rights in High-Risk Countries*, 2011.
247. International Code of Conduct Association (IcoCA), Homepage, https://icoca.ch/, accessed on 24 November 2023.
248. Office of the High Commissioner for Human Rights (OHCHR), *'Private military and security companies in extractive industries – impact on human rights'*, 2017.

Resources:

249. International Council on Mining & Metals (ICMM), International Committee of the Red Cross (ICRC), International

Finance Corporation (IFC), and International Petroleum Industry Environmental Conservation Association (IPIECA), *Voluntary Principles on Security and Human Rights, Implementation guidance tools (IGT*), 2011.
250. Geneva Centre for Security Sector Governance (DCAF), International Committee of the Red Cross (ICRC), *Security and Human Rights Toolkit*, 2022.
251. Voluntary Principles on Security and Human Rights, *The Voluntary Principles on Security and Human Rights*, 2000.

Topic 14.15 Critical incident management

References:

252. International Council on Mining and Metals (ICMM), *Health and safety critical control management*, 2015.
253. International Council on Mining and Metals (ICMM), Health and safety performance indicators, https://www.icmm.com/en-gb/guidance/health-safety/health-and-safety-performance-indicators, accessed on 24 November 2023.
254. International Labour Organization (ILO), *Code of practice: Safety and health in opencast mines*, 2018.

Resources:

255. Global Tailings Reviews, *Global Industry Standard on Tailings Management*, 2020.
256. Initiative for Responsible Mining Assurance (IRMA), 'Emergency Preparedness and Response', 'Planning and Financing Reclamation and Closure', 'Waste and Materials Management', *Standard for Responsible Mining*, vol. 1, pp 66-76, 122-130, 2018.
257. International Atomic Energy Agency (IAEA), Safety Standards, https://www.iaea.org/resources/safety-standards, accessed on 24 November 2023.

Topic 14.16 Occupational health and safety

Authoritative instruments:

258. International Labour Organization (ILO), *Safety and Health in Mines Convention*, 1995 (No. 176).
259. International Labour Organization (ILO), *Violence and Harassment Convention*, 2019 (No. 190).
260. International Labour Organization (ILO), *Code of practice on safety and health in opencast mines*, 2018.
261. United Nations, *Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Ninth Edition*, 2021.

References:

262. Center for Disease Control and Prevention (CDC), The National Institute for Occupational Health and Safety (NIOSH), Mining Topic: Respiratory Diseases, cdc.gov/niosh/mining/topics/RespiratoryDiseases.html, accessed 24 November 2023.
263. International Council of Mining and Metals (ICMM), Health and Safety Performance Indicators. https://www.icmm.com/en-gb/guidance/health-safety/health-and-safety-performance-indicators, accessed on 24 November 2023.
264. International Council on Mining and Metals (ICMM), Fatality Prevention: Eight lessons learned, https://www.icmm.com/en-gb/research/health-safety/fatality-prevention, accessed on 24 November 2023.
265. International Labour Organization (ILO), *Safety and health in underground coalmines*, 2009.
266. International Labour Organization (ILO), *Women in mining: Towards gender* equality, 2021.
267. Occupational Safety and Health Administration (OSHA) US Department of Labor, Silica, Crystalline: Health Effects, https://www.osha.gov/silica-crystalline/health-effects, accessed on 24 November 2023.
268. The Advocates for Human Rights, *Promoting Gender Diversity and Inclusion in the Oil, Gas and Mining Extractive Industries: A Women's Human Rights Report*, 2019.
269. United Nations Development Programme, *Managing Mining for Sustainable Development*, 2018.

Resources:

270. International Council on Mining & Metals (ICMM), *Good practice guidance on occupational health risk assessment*, 2016.

Topic 14.17 Employment practices

Authoritative instruments:

271. International Finance Corporation (IFC), *Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets*, 2007.
272. Organisation for Economic Co-operation and Development (OECD), *Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractives Sector*, 2015.

References:

273. Business and Human Rights Resource Centre, *Africa: Report uncovers serious non-compliance with Social Labour Plans by three prominent mining companies*, 2022.
274. International Council on Mining and Metals (ICMM), *Future of Jobs in Mining Regions*, 2020.
275. International Labour Organization (ILO), *Sustainable Mining. How good practices in the mining sector contribute to more and better jobs*, 2017.
276. International Labour Organization (ILO), *Women in mining: Towards gender equality*, 2021.
277. United Nations Development Programme, *Managing Mining for Sustainable Development*, 2018.

Resources:

278. International Council on Mining and Metals (ICMM), *Social and Economic Reporting: Framework and Guidance*, 2022.

Topic 14.18 Child labor

Authoritative instruments:

279. Organisation for Economic Co-operation and Development (OECD), *Guidelines for Multinational Enterprises*, 2011.
280. International Labour Organization (ILO), *Minimum Age Convention*, 1973 (No. 138).
281. International Labour Organization (ILO), *Worst Forms of Child Labour Convention*, 1999 (No. 182).
282. United Nations (UN) Convention, 'Convention on the Rights of the Child', 1989.
283. United States Department of Labor, *2020 List of Goods Produced by Child Labor or Forced Labor*, 2020.

Additional references:

284. International Labour Organization (ILO) and International Organisation of Employers (IOE)*, How to do business with respect for children's right to be free from child labour: ILO-IOE child labour guidance tool for business*, 2015.
285. International Labour Organization (ILO), *Global estimates of child labour. 2012-2016*, 2017.
286. International Labour Organization (ILO), *Child Labour in Mining and Global Supply Chains*, 2019.
287. Organisation for Economic Co-operation and Development (OECD), *Interconnected supply chains: a comprehensive look at due diligence challenges and opportunities sourcing cobalt and copper from the Democratic Republic of the Congo*, 2019.
288. Save the Children, The Centre for Child Rights and Business, *Opportunities for Businesses to Promote Child Rights in Cobalt Artisanal and Small-scale Mining*, 2021.
289. United Nations Childen's Fund (UNICEF), *Mapping child labour risks in global supply chains: an analysis of the apparel, electronics and agricultural sectors*, 2020.
290. Walk Free, The Global Slavery Index, https://www.walkfree.org/global-slavery-index/, accessed on 24 November 2023.
291. Women's Rights and Mining, What are the Gender Dimensions of Child Labour in Mining?, https://womenandmining.org/what-are-the-gender-dimensions-of-child-labour-in-mining, accessed 24 November 2023.

Resources:

292. Organisation for Economic Co-operation and Development (OECD), *Practical actions for companies to identify and address the worst forms of child labour in mineral supply chains*, 2017.

Topic 14.19 Forced labor and modern slavery

Authoritative instruments:

293. International Labour Organization (ILO), *Forced Labour Convention*, 1930 (No. 19).
294. Organisation for Economic Co-operation and Development (OECD), *OECD Guidelines for Multinational Enterprises*, 2011.

Additional references:

295. Alliance for Responsible Mining (ARM), *Addressing Forced Labor in Artisanal and Small-scale Mining (ASM)*, 2014.
296. Australian Government, Modern Slavery Act 2018, https://www.legislation.gov.au/Details/C2018A00153, accessed on 24 November 2023.
297. Business and Human Rights Resource Centre, Nevsun lawsuit (re Bisha mine, Eritrea), https://www.business-humanrights.org/en/latest-news/nevsun-lawsuit-re-bisha-mine-eritrea/, accessed on 24 November 2023.
298. International Council for Mining and Metals (ICMM), *Tackling modern slavery in the mining supply chain*, 2016.
299. International Labour Organization (ILO), *Global Estimates of Modern Slavery*, 2017.
300. International Labour Organization (ILO), Walk Free, International Organization for Migration (IOM), *Global Estimates of Modern Slavery, Forced Labour, and Forced Marriage*, 2022.
301. M. Coderre-Proulx, B. Campbell, I Mandé, and International Labour Organization (ILO), *International migrant workers in the mining sector*, 2016.
302. United States Department of State, *Trafficking in Persons Report*, 2021.
303. United States Department of Labor, *2020 List of Goods Produced by Child Labor or Forced Labor*, 2020.
304. Walk Free, The Global Slavery Index, https://www.globalslaveryindex.org/, accessed on 24 November 2023.

Topic 14.20 Freedom of association and collective bargaining

References:

305. International Labour Organization (ILO), International Labour Standards on Collective bargaining, https://www.ilo.org/global/standards/subjects-covered-by-international-labour-standards/collective-bargaining/lang--en/index.htm?msclkid=f4a489f1a63111ecbfd7ab27c4baa6a8, accessed on 24 November 2023.
306. Max Plank Foundation and BGR,*Human Rights Risks in Mining: A Baseline Study*, 2016.
307. United Nations Global Compact, *Guiding Principles for Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework*, 2011.

Resources:

308. Initiative for Responsible Mining Assurance (IRMA), 'Complaints and Grievance Mechanism and Access to Remedy', *Standard for Responsible Mining*, vol. 1, pp 31-34, 2018.

Topic 14.21 Non-discrimination and equal opportunity

Authoritative instruments:

309. United Nations (UN), *General comment No. 20: Non-discrimination in economic, social and cultural rights (art. 2, para. 2, of the International Covenant on Economic, Social and Cultural Rights)*, 2009.

References:

310. International Labour Organization (ILO), *Women in mining: Towards gender equality*, 2021.
311. National Resource Governance Institute, *Gender and Extractive Governance: Lessons from Existing Legal and Policy Frameworks*, 2021.
312. Oxfam International, *Position Paper on Gender Justice and the Extractive Industries*, 2017.
313. Reuters, *Factbox: Australia's inquiry into sexual harassment in mining*, 23 June 2022.
314. The Advocates for Human Rights, *Promoting Gender Diversity and Inclusion in the Oil, Gas, and Mining Extractive Industries*, 2019.
315. Women's Rights and Mining, https://womenandmining.org/, accessed on 24 November 2023.
316. World Bank, *Gender Dimensions of the Extractive Industries: Mining for Equity*, 2009.

Resources:

317. United Nations Environment Programme Financial Initiative (UNEP FI), Human Rights Guidance Tool for the Financial Sector, Mining and Metals, https://www.unepfi.org/humanrightstoolkit/mining.php, accessed on 24 November 2023.

Topic 14.22 Anti-corruption

Authoritative instruments:

318. Organisation for Economic Co-operation and Development (OECD), *Convention on Combating Bribery of Foreign Public Officials in International Business Transactions and Related Documents*, 1997.
319. Organisation for Economic Co-operation and Development (OECD), *Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas*, 2016.

References:

320. E. Westenberg and A. Sayne, *Beneficial Ownership Screening: Practical Measures to Reduce Corruption Risks in Extractives Licensing*, 2018.
321. Extractive Industries Transparency Initiative (EITI), *Addressing corruption risks through EITI implementation*, 2021.
322. Extractive Industries Transparency Initiative (EITI), *Factsheet: Disclosing beneficial ownership*, 2017.
323. Financial Action Task Force (FATF), *FATF guidance: Politically exposed persons (recommendations 12 and 22)*, 2013.
324. International Council on Mining and Metals (ICMM), Contract Transparency Commitment, https://www.icmm.com/en-gb/news/2021/new-commitment-contract-transparency, accessed 24 November 2023.
325. Organisation for Economic Co-operation and Development (OECD), *Corruption in the Extractive Value Chain: Typology of Risks, Mitigation Measures and Incentives*, 2016.
326. Organisation for Economic Co-operation and Development (OECD), *Frequently Asked Questions*: *How to address bribery and corruption risks in mineral supply chains*, 2021.
327. Organisation for Economic Co-operation and Development (OECD), *OECD Foreign Bribery Report: An Analysis of the Crime of Bribery of Foreign Public Officials*, 2014.
328. Sayne, Gillies and Watkins, *Twelve Red Flags: Corruption Risks in the Award of Extractive Sector Licenses and Contracts*, 2017.
329. Transparency International, *Combatting corruption in mining approvals*, 2017.
330. Transparency International, *Corruption risk mitigation in the mining sector, 2019.*
331. Westenberg and Sayne, *Beneficial Ownership Screening: Practical Measures to Reduce Corruption Risks in Extractives Licensing*, 2018.
332. A. Williams and K. Dupuy, *Deciding over nature: Corruption and environmental impact* assessments, 2016.

Resources:

333. Extractive Industries Transparency Initiative (EITI), *EITI Standard 2023*, 2023.
334. Extractive Industries Transparency Initiative (EITI), *Reporting Guidelines for companies buying oil, gas, and minerals from governments*, 2020.

Topic 14.23 Payments to governments

Authoritative instruments:

335. European Parliament, 'Directive 2013/34/EU of the European Parliament and the Council of 26 June 2013 on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings', 2013.
336. Organisation for Economic Co-operation and Development (OECD), *Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas*, 2016.

References:

337. Extractive Industries Transparency Initiative (EITI), *Fact sheet: Project-level reporting in the extractive industries*, 2018.
338. Extractive Industries Transparency Initiative (EITI), *Upstream Oil, Gas, and Mining State-Owned Enterprises, Governance Challenges and the Role of International Reporting Standards in Improving Performance*, 2018.
339. Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF), Building Government Capacity to Secure Mining's Financial Benefits in Latin America, https://www.igfmining.org/secure-mining-financial-benefits-latin-america/, accessed on 24 November 2023.
340. International Council on Mining and Metals (ICMM), *Position Statement: Transparency of Mineral Revenues*, 2021.
341. National Resource Governance Institute (NRGI), *Transfer Pricing in the Mining Sector: Preventing Loss of Income Tax Revenue*, 2016.

342. Transparency International, *Under the Surface: Looking into Payments by Oil, Gas and Mining Companies to Governments*, 2018.
343. United Nations Development Programme (UNDP), *Extracting Good Practices*, 2018.

Resources:

344. Extractive Industries Transparency Initiative (EITI), *EITI Standard 2023*, 2023.
345. Extractive Industries Transparency Initiative (EITI), *Reporting Guidelines for companies buying oil, gas, and minerals from governments*, 2020.
346. Organisation for Economic Co-operation and Development (OECD), *Transfer Pricing Documentation and Country-by-Country Reporting, Action 13 - 2015 Final Report, OECD/G20 Base Erosion and Profit Shifting Project*, 2015.

Topic 14.24 Public policy

Authoritative instruments:

347. United Nations, Framework Convention on Climate Change, The Paris Agreement, 2016.

References:

348. Australia Institute, *Undermining our democracy: Foreign corporate influence through the Australian mining lobby*, 2017.
349. Influence Map, *BHP and Rio Tinto: Their Industry Groups and Climate Lobbying*, 2020.
350. InfluenceMap, Trade association and climate: Shareholders make themselves heard, 2018, https://influencemap.org/report/Trade-associations-and-climate-shareholders-make-themselves-heardcf9db75c0a4e25555fafb0d84a152c23, accessed on 24 November 2023.
351. L. Leonard, *Mining Corporations, Democratic Meddling, and Environmental Justice in South Africa,* 2018.
352. Organisation for Economic Co-operation and Development (OECD), *Corruption in the Extractive Value Chain*, 2016.
353. Organisation for Economic Co-operation and Development (OECD), Lobbying, https://www.oecd.org/corruption/ethics/lobbying/, accessed on 24 November 2023.
354. Organisation for Economic Co-operation and Development (OECD), *Preventing policy capture, integrity in public decision making*, 2017.
355. Sidney Morning Herald, *Mining lobby defends green goals amid push for BHP to quit*, 2021.
356. Transparency International, *Combatting corruption in mining approvals*, 2017.

Topic 14.25 Conflict-affected and high-risk areas

Authoritative instruments:

357. European Union, Indicative, Non-exhaustive list of conflict-affected and high-risk areas under (EU) Regulation 2017/821, https://www.cahraslist.net/cahras, accessed on 24 November 2023.
358. Organisation for Economic Co-operation and Development (OECD), *Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas*, 2016.

Additional references:

359. Australian Red Cross, RMIT University, *Doing responsible business in armed conflict: Risks, Rights and Responsibilities*, 2020.
360. Geneva Academy of International Humanitarian Law and Human Rights*, Rule of Law in Armed Conflicts*, 2022.
361. International Alert, *Human rights due diligence in conflict-affected settings: Guidance for extractive industries*, 2018.
362. United Nations Development Programme (UNDP), *Heightened Human Rights Due Diligence for Business in Conflict-Affected Contexts: A Guide*, 2022.
363. United Nations Environmental Programme (UNEP), *From Conflict to Peacebuilding: The Role of Natural Resources and the Environment*, 2009.

Resources:

364. Australian Red Cross, Seven Indicators of Corporate Best Practice in International Humanitarian Law, 2021.
365. Code of Risk-mitigation for ASM engaging in Formal Trade (CRAFT), What is CRAFT?, https://www.craftmines.org/en/what-is-craft/, accessed 24 November 2023.

366. European Union (EU) and UN Interagency Framework Team for Preventive Action, *Toolkit and Guidance for Preventing and Managing Land and Natural Resources Conflict: Extractive Industries and Conflict*, 2012.
367. Geneva Centre for Security Sector Governance (DCAF), International Committee of the Red Cross (ICRC), Security and Human Rights Toolkit, https://www.securityhumanrightshub.org/toolkit/challenge-topics.html, accessed 24 November 2023.
368. Organisation for Economic Co-operation and Development (OECD), Weak governance zones - Risk awareness tool for multinational enterprises, https://www.oecd.org/daf/inv/mne/weakgovernancezones-riskawarenesstoolformultinationalenterprises-oecd.htm, accessed on 24 November 2023.
369. Responsible Minerals Initiative (RMI), *Responsible Minerals Assurance Process (RMAP),* 2022.
370. Responsible Minerals Initiative (RMI), *Responsible Minerals Assurance Process: Public Due Diligence Report Writing Guidance,* 2018.
371. Uppsala University, Uppsala Conflict Data Program, https://ucdp.uu.se/encyclopedia, accessed on 24 November 2023.
372. Voluntary Principles on Security and Human Rights, *The Voluntary Principles on Security and Human Rights*, 2000.

PO Box 10039
1001 EA Amsterdam
The Netherlands

www.globalreporting.org