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Item 05 – draft GRI Sector Standard: oil, gas, and coal

For GSSB information and discussion

Date	12 March 2020
Meeting	26 March 2020
Project	GRI Sector Program project – oil, gas, and coal
Description	This paper sets out the rough draft of the pilot GRI Sector Standard for the oil, gas and coal sectors. This draft is still under development and does not constitute the final position of the PWG or the Standards Division. It is provided for the purposes of GSSB discussion and input. It is anticipated that the content and format will be revised prior to the release of an Exposure Draft for public comment. A summary of the development process to date, along with relevant contextual information have been included at the beginning of the document. An overview of the feedback collected on the inclusion of the oil, gas, and coal sectors in one GRI Sector Standard has also been included for information and discussion. **Please note**: The draft Sector Standard has been reviewed to ensure that there is no conflict with the proposed revisions of the universal Standards and will be revised prior to the submission of the exposure draft to align with the exposure draft of the universal Standards.

Contents

Background

The Sector Standard for oil, gas, and coal is a pilot project within the GRI Sector Program, which aims to develop reporting Standards for specific sectors. Oil, gas, and coal were identified as high-priority sectors due to the magnitude of their impacts on all dimensions of sustainable development, such as on climate change, human rights, corruption, and biodiversity.

As outlined in the Project Proposal approved by the GSSB in March 2019, the primary objectives of this project were to:

- Identify and describe the oil, gas, and coal sectors' significant impacts and stakeholder expectations, from a sustainable development perspective;
- Provide evidence and authoritative references for these.

It was also anticipated that during the process, the project would generate insight on the feasibility of developing reporting requirements, recommendations, and/or guidance for the sectors.

The following sections outline the process of development to date. The draft Sector Standard is still under development and is being provided to the GSSB to seek their input and inform the direction of the work. It is anticipated that the content and content of the Standard will be revised prior to the release of an Exposure Draft for public comment.

Draft development with the Project Working Group

The Project Working Group (PWG) for the development of a Sector Standard for oil, gas, and coal was approved by the GSSB in June 2019. Along with the 17 appointed experts, the Standards Division commenced the work to develop draft contents in July 2019.

The draft development process started with a scoping survey to the PWG to collect input on the significant impacts of the oil, gas, and coal sectors. After analysis and consolidation of the results, the PWG agreed on 22 likely material topics for the sectors. The description of these topics and related impacts is based on extensive research with a focus on authoritative references. The PWG has contributed extensive input and feedback on the contents of the draft Standard through virtual and in-person meetings, online platforms, and one-on-one engagements. To date, the full PWG has gathered five times.

The current draft (draft Sector Standard) submitted to the GSSB reflects the PWG's opinion on the likely material topics for the sectors, including what the group would expect to see reported on each topic.

One of the main outcomes of the process has been the PWG's ambition to highlight the importance of climate change to these sectors. It was concluded that climate change is the single most important issue for oil, gas and coal sectors and has interconnections to all other topics, whether related to the economic, environmental, or social dimension. The PWG has indicated stakeholders' expectations to see reporting on aspects like board responsibility for climate change, the setting of emissions targets, relation to management incentives, climate lobbying, and transparency on memberships in business associations.

The weight of this is reflected throughout the draft Sector Standard. Topics directly related to climate change deal with mitigating GHG emissions and strategic actions around climate resilience and transition to low carbon economies. These topics are prominently placed in the draft Standard, separated from other environmental topics. Additionally, in describing the sectors' sustainability context, the challenge of climate change has been emphasised.

Additional expert engagement

The Standards Division has engaged with external stakeholders outside of the PWG to gather further input on the draft contents. A number of these experts were identified as part of the recruitment of the PWG.

To date, the team has engaged with experts from over 20 organizations representing business, civil society, investor and mediating institutions. Feedback was collected through a group webinar, individual meetings and written feedback.

This engagement reinforced the need to highlight climate change for these sectors. The likely material topics were largely confirmed as the correct ones, and the contents were seen as useful from both a reporter's perspective as well as for engagement purposes. Many of those engaged also found the approach to topic descriptions practical, providing a sufficient amount of detail on the significant impacts and how they occur. The reporting expectations attached to the topics were largely seen as appropriate for these sectors. The user journey of the Sector Standards, together with the GRI topic-specific Standards, was seen as clear and logical.

Feedback from these engagements was discussed with the PWG in a separate meeting, and the draft contents were revised accordingly.

Overview of the Sector Standard

The GRI Sector Standards are intended to guide a reporting organization by outlining the topics that are likely material for any organization in the specified sector/s and therefore should be considered for inclusion in their sustainability reporting. Sector Standards also communicate stakeholder expectations for the sectors' sustainability reporting. As such, oil, gas and coal organizations would be required to use the Sector Standard for oil, gas, and coal when identifying its material topics. However, this is not intended to be a substitute for meeting the requirements for identifying material topics outlined in *GRI 101: Foundation*.

The draft Sector Standard identifies 22 likely material topics for the oil, gas, and coal sectors. Each topic description details the sectors' significant impacts related to the topic and specifies what to report if an organization in the sectors has identified the topic as material. Not all topics may be material for all organisations, similarly the list of topics is not exhaustive and other topics that are not represented in the Standard may be material for an organization within those sectors.

In addition, the draft Standard provides a description of the sectors' activities, as well as the sustainability context of the sectors.

There are still a number of questions and open areas related to the draft Sector Standard that will need to be resolved. These include alignment with any revisions to the universal Standards, the use of references, terms to include in the Sector Standard glossary, and the inclusion of the UN Sustainable Development Goals.

Sector reporting

It was anticipated that the project would generate insight into the feasibility of including or developing reporting requirements, recommendations, and/or guidance for a sector as part of a Sector Standard.

The PWG has maintained throughout the development process that it is necessary to include reporting in the Sector Standard. They have suggested that without the inclusion of required

reporting and related guidance, the value of the Standard is undermined. Some members of the PWG have advocated for weighting the balance of the draft Sector Standard more towards reporting than the current draft.

In the draft presented, each topic description specifies what to report if an organization in the sectors has identified the topic as material.

The PWG has identified what they consider appropriate reporting for the topic, based first on the principle of pointing to the relevant topic-specific GRI Standard and/or appropriate disclosures contained in the GRI Standards.

If the reporting for a topic is not considered to be sufficiently covered by existing GRI Standards, then consideration was given to whether the gap could be filled by an established source of disclosure for the sectors or, as a last resort, by directly specifying what reporting is required.

The current draft is intended to reflect what the PWG considers is reasonable to be required from an organization in the oil, gas, and coal sectors on each topic.

It is not expected that an organization would report for all topics but that the reporting is contingent on the topic being material.

There are a number of ways that this reporting could be implemented in the GRI Standards which will affect the binding nature of the reporting listed in Sector Standards and, in turn, how the 'What to report' sections are formatted. This will be presented in more detail for discussion at the meeting.

Sector Standard Scope

As part of the development of the Oil, Gas, and Coal Sector Standard Project Proposal, commonalities between the relevant topics for the purposes of reporting on oil, gas and coal activities were expected, and as such it was agreed the sectors could be accounted for in a single GRI Sector Standard.

Three stakeholder submissions from the oil and gas sector (previously submitted to the GSSB) flagged concerns about the inclusion of the oil, gas, and coal sectors in one GRI Sector Standard.

The GSSB committed to revisit the inclusion of these sectors in one Sector Standard in advance of the public comment so the Standards Division has also sought the views of the PWG on the existing scope of the project.

The work to date suggests that the likely material topics and reporting considerations identified in the draft Sector Standard are applicable across the oil, gas, and coal sectors. The impacts list in the draft Sector Standard are broadly seen as characteristic of the large-scale extraction projects and other upstream activities of both sectors. The issue of climate change, along with the context and topics relevant to this issue, have been confirmed of key relevance to oil and gas, and coal.

The PWG has identified that some of the differences between oil and gas, and coal are the organizations that undertake operations in these sectors, the specific nature of some of the activities and as such the source of an impact (even where impacts may be common), and the likely transition pathways of these sectors towards a lower-carbon economy. These differences have been accommodated in the draft Sector Standard by delineating between the two sectors where needed.

While not the unanimous view of the PWG, a majority of the membership felt that the inclusion of oil and gas, and coal in a single Sector Standard would be a major impediment to the uptake of the Standard and advocated for the separation of these two sectors.

It was also felt that there could be additional benefits of separate Sector Standards, such as providing the space to further augment the topic descriptions and detail on the impact of a sector in the future.

Members of the PWG did note the potential implications of Sector Standards with more narrow scopes in terms of the burden associated with administering and revising these Standards in the future.

Views collected during the additional external engagement largely reflect the comments of the PWG.

The Standards Division has accounted for the potential need to separate the draft Sector Standard so believes it is technically possible.

The views aired by the PWG and other external stakeholders, along with the implications for the progress of this project and the Sector Program more generally will be discussed in more detail at the meeting.

GRI SECTOR STANDARD:
OIL, GAS, AND COAL (draft)

Contents

Please note:

This is a draft document of a GRI Sector Program pilot project. This does necessarily constitute the final format of the GRI Sector Standards and is subject to change.

This should not be relied upon for the purposes of reporting.

About this Standard

Responsibility	This Sector Standard: Oil, Gas, and Coal is issued by the Global Sustainability Standards Board (GSSB). The full set of GRI Standards can be downloaded at www.globalreporting.org/standards. Any feedback on the GRI Standards can be submitted for the consideration of the GSSB to standards@globalreporting.org.
Scope	This Standard outlines topics that are likely material for a reporting organization in the oil, gas, and coal sectors based on the most significant impacts of the sectors or those topics that substantively influence the assessments and decisions of stakeholders. This Standard applies to any organization that undertakes activities in the oil, gas, and coal sectors, specifically oil, gas, and coal exploration, development, and production; storage, transportation, and distribution; processing and refining; sales and marketing; and decommissioning and closure. Further details on the included activities are listed in section 'Sector description'. Oil, gas, and coal organizations are to use this Sector Standard when identifying material topics. Sector Standards, however, are not a substitute for meeting the requirements for identifying material topics set out in *GRI 101: Foundation*. This Sector Standard can be used by organizations of any size or type in any location.
Normative references	This Sector Standard is to be used together with the most recent versions of the following documents: *GRI 101: Foundation* *GRI 102: General Disclosures* *GRI 103: Management Approach* *GRI 200, 300, 400 series topic-specific Standards* *GRI Standards Glossary* In the text of this Sector Standard, terms defined in the Glossary are underlined.
Effective date	This Sector Standard is effective for reports or other materials published on or after [tbc]. Earlier adoption is encouraged.

Introduction

Purpose of the Standard

Sustainability reporting, as promoted by the GRI Sustainability Reporting Standards (GRI Standards), is an organization's practice of publicly disclosing its economic, environmental, and/or social impacts. Information made available through sustainability reporting allows internal and external stakeholders to form opinions and make informed decisions about an organization's participation in sustainable development.

To assist a reporting organization facing a wide range of topics on which it can report, the GRI Standards requires the organization to identify and report on its material topics. These are essential to report on because they reflect the organization's significant economic, environmental, and/or social impacts or substantively influence stakeholders' assessments and decisions.

The topics an organization identifies as material could vary according to the specific circumstances of the organization, such as its business model; sector; geographic, cultural, and legal operating context; ownership structure; and nature of impacts.

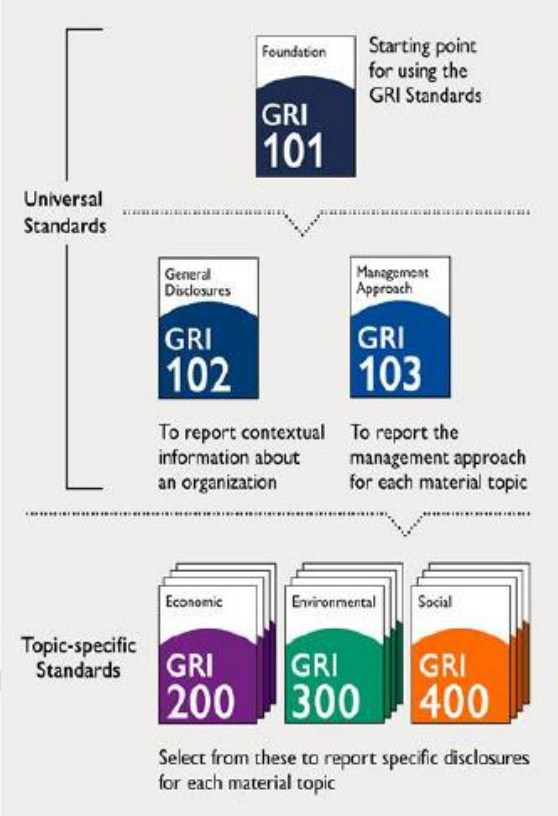
The GRI Sector Standards (Sector Standards) guide a reporting organization by outlining the topics determined to be likely material for any organization in the specified sector/s. They therefore should be considered for inclusion in their sustainability reporting. Sector Standards also communicate stakeholder expectations for the sector's sustainability reporting.

Using this Sector Standard will help an organization report on what matters most, ensuring greater transparency and accountability as well as strengthening an organization's foundation for sustainable decision-making.

Sector Standards also support high-quality sustainability reporting by outlining what to report for topics identified as material for the organization.

Using this Standard

This Sector Standard is part of the GRI Standards, which are structured as a set of interrelated, modular standards. The full set is downloadable at www.globalreporting.org/standards.



The set of GRI Standards includes three types:

1. Universal Standards
2. Topic-specific Standards; and
3. Sector Standards.

The three universal Standards that apply to every organization preparing a sustainability report include:

GRI 101: Foundation

GRI 102: General Disclosures

GRI 103: Management Approach.

An organization reporting in accordance with the GRI Standards is required to identify its material topics. Material topics are those that reflect the reporting organization's most significant economic, environmental, and/or social impacts; or substantively influence the assessments and decisions of stakeholders.

This Sector Standard outlines topics that are likely material for a reporting organization in the oil, gas, and coal sectors based on the sectors' most significant impacts or those that substantively influence the assessments and decisions of stakeholders.

An oil, gas or coal organization is required to use this Sector Standard to identify its material topics. However, this is not a substitute for meeting the requirements for identifying material topics outlined in *GRI 101: Foundation*. Not all topics may be material for all organizations. Similarly, the list of topics is not exhaustive, and other topics may be material for an organization within the sectors that are not represented in the Standard.

[Please note that while the following outlines how, in principle, the Sector Standard can include reporting, it is placeholder text and will be revised based on the outcome of the GSSB discussions and the revision of the universal Standards.]

An organization is required to report on each material topic as outlined in Clause 2.5 of *GRI 101: Foundation*. To report on its material topics, an organization shall use topic-specific Standards, which include disclosures specific to that topic, as well as *GRI 103: Management Approach*, which guides an organization in reporting the management approach for the topic. If the GRI Standards do not provide appropriate disclosures for a material topic or if the material topic is not covered by an existing GRI Standard, the organization should report other appropriate disclosures.

If an organization identifies a topic as material that is included in the applicable Sector Standard(s), the Sector Standard can be used to determine what to report for that topic. Sector Standards principally identify appropriate disclosures in existing GRI topic-specific Standards and, when a topic is not sufficiently covered by an existing GRI Standard, other appropriate disclosures.

Overview of Sector Standard contents

This Sector Standard contains the following sections:

Sector description

This section outlines the types of organizations for which a Sector Standard is relevant. It also includes an overview of activities and business relationships of organizations that are relevant to the impacts listed in the topic descriptions.

Sustainability context

This section describes the sustainability context of the sector(s), which helps an organization identify its material topics. It also helps readers of reported information examine the organization's performance.

Clause 1.2 in *GRI 101: Foundation* requires an organization to report its performance in the wider context of sustainable development.

> A reporting organization is responsible for understanding all international standards and agreements with which it is expected to comply. These can include the ILO *Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy*, *OECD Guidelines for Multinational Enterprises*, the UN *Guiding Principles on Business and Human Rights* as well those applicable to particular sectors.
>
> Throughout Sector Standards, references are made to the expectations set by such instruments.

Sector topics

The sector topics are likely material for a reporting organization in the specified sector(s) and therefore potentially merit inclusion in their sustainability reporting.

Each topic description also specifies what to report if an organization in the sector has identified the topic as material. Such descriptions identify relevant GRI Standards, but when a topic is not sufficiently covered for the sector(s) by an existing topic-specific Standard, the organization is referred to additional disclosures, recommendations, and resources.

Key terms

This section includes definitions for key terms used in the Sector Standard. All defined terms are underlined. If a term is not defined in this section, commonly used and understood definitions apply.

Resources and bibliography

Sector description

The oil, gas, and coal sectors have an important role in meeting society's need for energy and raw materials for products such as specialty chemicals, polymers, and petrochemicals.

The purpose of the GRI Sector Standard: Oil, Gas, and Coal is to support organizations active in these sectors to determine their material topics for sustainability reporting as well as to reflect and set stakeholder expectations for reporting. These are based on significant impacts and stakeholder concerns resulting from sector activities, including oil, gas, and coal exploration, development, and production; storage, transportation, and distribution; processing and refining; sales and marketing; and closure and decommissioning.

BUSINESS RELATIONSHIPS

The GRI Standards require organizations to report not only on impacts resulting from their own activities, but also from their business relations. Examples include relationships with joint venture partners, suppliers, franchisees, and entities providing public security, catering, or cleaning services. The following business relationships are of particular relevance to oil, gas, and coal:

Joint ventures: these are common arrangements, particularly in upstream oil, gas, and coal operations. Within a joint venture, companies share the costs, benefits, and liabilities of assets or a project. An organization can be involved with negative impacts as a result of a joint venture, even if it is a non-operating partner.

State-owned enterprises (SOEs): these are prevalent in the oil and gas sectors. They often represent the largest producers of the commodities and hold ownership of the majority of reserves. SOEs often have specific governance challenges, which are addressed in the section **Transparency and governance**.

Suppliers and contractors: these are used, often in large number, by oil, gas, and coal organizations during certain phases of the project, such as drilling or construction, or to provide services. Some of the most significant impacts related to the topics in this Sector Standard occur mainly through the supply chain.

Besides impacts related to oil, gas, and coal activities, the sectors have impacts associated with the use of products, which generate greenhouse gas (GHG) emissions. GHG emissions, in turn, are the main contributor to climate change. Along with end users, companies extracting these products are increasingly expected to take responsibility for emissions created through use of their products. Consequently, in this Sector Standard, reporting organizations are expected to also disclose GHG emissions that occur through the use of their products (Scope 3).

Who should use this Sector Standard?

The Sector Standard: Oil, Gas, and Coal can be used by organizations undertaking activities related to oil, gas, and coal operations. For the purpose of this Sector Standard, 'operations' are defined as temporary or permanent sites, activities, and assets used for exploration, extraction, refining, transporting, distributing, and marketing petroleum products.

This Standard is relevant to organizations involved in the following activities:

- Exploration and production of onshore and offshore oil and gas, including integrated oil and gas companies.
- Exploration, processing, and mining of coal in underground or open-cast mines.
- Suppliers of equipment and services to coal mines, oil fields, and offshore platforms, such as drilling, exploration, seismic information services and platform construction, including owners and contractors of drilling rigs.
- Storage or transportation of oil, gas, and coal, such as slurry pipelines, midstream natural gas companies, and oil and gas shipping.
- Activities associated with oil, gas, and coal products, such as manufacture of refined petroleum products, coal products, and consumable fuels.

Sector activities

The following describes upstream and downstream oil, gas, and coal activities and the project lifecycle phases where significant impacts occur.

Oil and gas

Exploration*:* Surveying for resources, for example, through desk studies, commercial review, aerial surveys, seismic testing, and exploratory drilling.

Development: Design, planning, and construction of oil and gas field, including processing and worker facilities.

Production*:* Production of oil and gas from the reservoir offshore or onshore and separation of fluids through processing.

Decommissioning and rehabilitation*:* Dismantling, removal, disposal, or modification of a physical asset and rehabilitation of a site.

Refining: Refining of oil into petroleum products for use as fuels and as feedstocks for chemicals,

Processing*:* Processing of gas into pipe-quality natural gas and natural gas liquids such as ethane, propane, butane, iso-butane, and natural gasoline.

Transport: Marine and land transportation of oil and gas products.

Storage and pipelines: Distribution and storage of oil and gas in tanks and marine vessels and distribution via marine and land-based pipelines.

Sales and marketing: Trading and sales of products to customers, for example, transport fuels, gas for retail use, and inputs into lubricants, plastics, and chemicals manufacturing.

Coal

Prospecting and exploration*:* Surveying of resources, for example, through feasibility assessments, geologic mapping, aerial photography, geophysical measuring, and drilling.

Development: Design, planning and construction of a mine, including facilities for coal processing and workers.

Mining: Extraction of coal using surface mining, underground mining, or in-situ techniques.

Processing of coal: Crushing, cleaning, and processing of coal from unwanted materials; processing into briquettes, liquids and gas and coke for steelmaking.

Closure and rehabilitation: Decommissioning of processing facilities, land reclamation and rehabilitation, and closing and sealing of waste facilities.

Transport: Transportation of coal to the point of consumption by truck, ship, railroad, or barge. Mixed with oil or water, coal slurry can be transported by pipeline.

Storage: Storing coal at mining sites, import and export terminals, or power plant stockpiles awaiting transportation or combustion.

Sales and marketing: Trading and selling of products to customers, for example, for iron and steel production, cement production, electric utilities, and manufacturing.

Sustainability context

Energy and climate

The United Nations Sustainable Development Goals (SDGs) identify energy as an essential driver of sustainable development. Historically, the world's energy systems have been reliant on oil, gas, and coal to generate electricity and fuel global economic development. With the world's population and economies growing, demand for energy and electricity is on the rise. Over one in 10 people globally still lack access to electricity,[1] highlighting the need for affordable, reliable, and modern energy. This is recognized as essential for economic growth, employment, education, poverty reduction, and health, as outlined in **SDG 7: Affordable and Clean Energy**.

However, burning of oil, gas, and coal releases greenhouse gases (GHGs), constituting the largest single contributor to climate change. In addition to causing economic losses, climate change threatens lives, livelihoods, and homes of millions of people, and has far-reaching implications for the environment. Climate change is already having significant impacts globally, and reducing GHG emissions is an urgent global challenge that must be addressed to prevent the acceleration of these effects.

The majority of the world's countries has committed to combating climate change, as outlined in the 2015 Paris Agreement and **SDG 13: Climate Action.** Leading scientists warn in the International Panel on Climate Change (IPCC) special report *Global Warming of 1.5°C* that continuing on a 'business-as-usual' basis to consume and produce fossil fuels, including existing and future reserves, could result in dangerous global temperature increases. This could lead to magnified climate-related physical risks.[2] Further reports show that with current commitments, the world is heading towards 3.2°C temperature rise by 2100.[3]

Climate change will still occur, even with drastic changes that transition the energy system into low-emissions alternatives, but the impacts will be more severe if no action is taken. This underlines the need to transition to a low-carbon economy, based on affordable, reliable, sustainable, and modern

[1] World Bank Group website, Access to Electricity.
[2] Intergovernmental Panel on Climate Change (IPCC), *Global Warming of 1.5 °C*, 2018.
[3] The United Nations Environment Programme (UNEP), Emissions Gap 2019, 2019.

energy. Actions taken by high-emitting sectors such as oil, gas, and coal are essential for this transition. Actions can include business model changes, investing in renewable energy resources and carbon sinks, prioritizing energy-efficient practices, and developing and adopting new technologies and nature-based solutions to remove carbon from the atmosphere.[4]

As laid out by the Paris Agreement, organizations and governments must work together to ensure a 'just transition'. This entails accommodating countries' differing capabilities to respond to and mitigate impacts, ensuring equitable access to sustainable development while contributing to poverty eradication, and creating quality jobs for people affected by the transition.[5]

Environment and biodiversity

The oil, gas, and coal sectors are associated with extensive infrastructure development, project lifecycles of several decades, and immobile production, which can result in various environmental impacts. Affecting the atmosphere, soil, forests, freshwater, and marine environments, these impacts vary according to the size of activity, location, technology, and lifespan of a project. Though some impacts are positive, the scale of potential negative impacts grows when activities occur close to ecologically sensitive areas. The sectors' activities can have major impacts on biodiversity, which is deteriorating at an accelerating rate. Impacts can also be cumulative, with multiple stresses or demands directed on the site or landscape from a number of actors, as well as accumulate over time. Actions to minimize these impacts are underscored by **SDG 14: Life Below Water** and **SDG 15: Life on Land**.

Environmental impacts can have knock-on effects on human well-being, such as through emissions or waste streams. Relevant targets to combat pollution are considered in **SDG 3: Good Health and Well-Being**, **SDG 11: Sustainable Cities and Communities**, and **SDG 12: Responsible Consumption and Production**. The sectors also impact many natural resources on which local communities depend, such as water. Access to and supply of safe and affordable drinking water are key targets of the **SDG 6: Clean Water and Sanitation**.

Communities

Oil, gas, and coal operations can yield economic and social development for nations and communities through revenues and job creation, new infrastructure, investment, and skills and business development. Local communities are often directly impacted by the sectors' activities through wages, benefits, and local supply of goods and services. Organizations also engage in social investments and community development programs that sometimes have long-term value and benefit creation for a community. These actions can contribute to positive developments such as those outlined in **SDG 1: No Poverty** and **SDG 8: Decent Work and Economic Growth**.

[4] Organisation for Economic Co-operation and Development (OECD), International Energy Agency (IEA), *OECD Green Growth Studies – Energy*, 2011.
[5] United Nations Framework Convention on Climate Change (UNFCCC), *Paris Agreement*, 2015.

At the same time, the introduction of oil, gas, or coal activities can expose communities to disruption. Impacts such as pollution, environmental degradation, and lost or restricted access to lands or water can compromise existing industries and affect communities' health, safety, and cultural identities. Impacts are rarely felt by all community members in the same way. For example, indigenous peoples usually have distinct cultural, political, and economic practices, and a relationship to their ancestral land that makes them more vulnerable to these sectors' impacts. Oil, gas, and coal developments can also threaten traditional livelihoods and cause social disruption. Targets to mitigate these impacts are included in **SDG 2: Zero Hunger**, **SDG 3: Good Health and Well-Being**, and **SDG 11: Sustainable Cities and Communities**.

Competition over land use can lead to opposition, erosion of social cohesion, and conflict. Human rights can also be impacted by practices concerning land acquisition, resettlement, and security. These aspects are closely linked to **SDG 5: Gender Equality** and **SDG 16: Peace, Justice and Strong Institutions**.

Health and safety

The oil, gas, and coal sectors are associated with the use of hazardous, flammable, and explosive materials, complex industrial processes and large machinery, long working hours in remote locations or confined spaces, and extensive transportation routes. Risks can also vary according to the method of extraction. For example, underground mining poses more hazards to workers than surface mining. Failure to identify, manage, and control risks and hazards can result in serious harm or death of workers as well as significant consequences for the public at large.

Healthy and safe work conditions are a recognized human right. The health and safety of workers and surrounding communities are widely covered in **SDG 3: Good health and well-being** and **SDG 8: Decent Work and Economic Growth**.

Employment

The oil, gas, and coal sectors offer many employment opportunities across areas of operations, as significant phases of operations rely on workforces, including employees, contractors, and suppliers.

At the same time, complex supply chains, remote working environments, and use of contract labor make the sectors vulnerable to labor-related and human-rights issues. These include restrictions on freedom of association and collective bargaining, child and forced labor, and discrimination. Other employment-related focus areas for the sectors include long working hours, promotion of diversity, job security, and training. These issues are widely covered in **SDG 8: Decent Work and Economic Growth**, which includes measures to end forced labor, modern slavery, human trafficking, and child labor.

Targets related to job access, equal treatment, gender diversity, and elimination of discrimination are included in **SDG 1: No poverty**, **SDG 5: Gender equality**, and **SDG 10: Reduced inequalities**.

Transparency and governance

The oil, gas, and coal sectors provide critical revenue streams that can contribute to local and national economies, including in developing countries, where these needs are significant. However, the opportunity to charge high rents from oil, gas, and coal projects make the sectors vulnerable to inefficient management of revenues and corruption. Other concerns include tax evasion, opaque ownership structures, and lobbying activities.

Poverty and inequality among populations persist in many resource-rich countries, even when natural resource exploitation is generating important revenues. Although many public organizations in these sectors are subject to extensive disclosure demands, lack of transparency among some organizations, which are often state-owned, is of growing public concern.

State-owned enterprises can get exemptions from financial and legal regulatory regimes. In some countries when adequate governance is not assured, state participation in enterprises is associated with additional challenges, such as limited oversight and accountability.

Transparency and public access to information, good governance, anti-corruption, and inclusive decision-making are widely addressed in **SDG 16: Peace, Justice and Strong Institutions**. Domestic resource mobilization that is supported by financial transparency responds to **SDG 17: Partnerships for the Goals**.

Topics: Oil, Gas, and Coal

The following topics describe the most significant impacts and stakeholder concerns for organizations operating in the oil, gas, and coal sectors. A multi-stakeholder Project Working Group has identified these topics as likely being material to organizations in these sectors. An organization is required to consider them as part of its process of determining material topics.

Climate change

This section describes the oil, gas, and coal sectors' significant impacts related to climate change from upstream and downstream operations as well as through product use.

Physical impacts of climate change include extreme weather events, rising sea levels, changes in quantity and quality of water resources, ocean acidification and rising sea temperatures, accelerating biodiversity loss and ecosystem change, poorer air quality, and a higher frequency of forest fires.[6]

Topics in this section include:

Greenhouse Gas (GHG) emissions	*GHG emissions comprise air emissions that contribute to climate change, such as CO_2 and methane.* *This topic covers direct and indirect GHG emissions resulting from oil, gas, and coal operations (Scope 1 and Scope 2) as well as emissions related to construction activities, transportation, processing and refining of products, and end-use emissions of products (Scope 3).*
Climate resilience and transition	*In the context of climate change, this topic covers resilience in reference to adapting current and anticipation of future climate risks and hazards, including protecting societies and adjusting ecological, social, or economic systems to impacts of climate change or taking advantage of opportunities that arise.* *In addition to mitigating climate change's causes and adapting to its impacts, the oil, gas, and coal sectors face transitioning the energy system towards low-carbon economies.*

[6] IPCC, Summary for Policymakers. In: *Global Warming of 1.5°C.*, 2018; Introduction. In: *Climate Change 2013: The Physical Science Basis*, 2013; *Climate Change 2014: Synthesis Report.*, 2014; *Climate Change and Biodiversity - IPCC Technical Paper V*, 2002, Chapter 1. In: *Climate Change 2007: Impacts, Adaptation and Vulnerability*, 2007.

GHG emissions

GHG emissions are the single biggest contributor to climate change, the impacts of which are occurring at an accelerating rate. Studies show that approximately half of the total anthropogenic carbon dioxide (CO_2) emissions from 1750 onwards have occurred in the last 40 years, mostly due to increased use of oil, gas, and coal.[7] Although progress has been made to improve the efficiency of production, increases in energy demand have caused a rise in global GHG emissions, the majority of which originate from the combustion of oil, gas, and coal.[8]

Besides CO_2, oil, gas, and coal activities also cause the emission of methane (CH_4), which has a significantly higher global warming potential than CO_2.[9] A quarter of the global warming experienced today is attributable to methane emissions,[10] with the energy sector as the second-largest source of anthropogenic methane emissions.[11] Methane emissions from oil, gas, and coal activities have also been shown to be severely underestimated, calling for more accurate monitoring and data.[12]

Other GHGs related to oil, gas, and coal include nitrous oxide (N_2O), ozone (O_3), and aerosols, such as sulfur compounds, organic compounds, black carbon, and dust.

Direct and indirect emissions (Scope 1 and Scope 2)

Oil, gas, and coal activities consume significant amounts of energy to build infrastructure as well as to extract, process, refine, transport, and deliver resources to customers. These operations generate CO_2 emissions unless they are powered by energy from renewable sources. The decommissioning and closure phase is also a source of GHG emissions.

Coal

Coal mining is energy-intensive and generates GHG emissions. The amount of energy used depends on factors, such as method of mining, mine depth, geology, mine productivity, and degree of refining required. Among mining's most significant energy-consuming activities are transportation, exploration activities, drilling, excavation, extraction, grinding, crushing, milling, pumping, and ventilation processes. Extraction and transportation in underground mines might require more energy use than surface mining due to greater requirements for hauling, ventilation, and water pumping, for example.

GHG emissions from coal operations originate from fuel combustion during construction of mines and associated facilities, operations, and transportation. Another source of GHGs is methane from

[7] Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2014: Synthesis Report*, 2014, p. 45

[8] International Energy Agency (IEA), *Market Report Series: Energy Efficiency 2018*, 2018 (p. 30); *CO2 Emissions from Fuel Combustion Highlights*, 2018 (p. 17).

[9] GHG Protocol website, Global Warming Potential Values; IEA, *CO2 Emissions from Fuel Combustion*, 2018.

[10] Environmental Defense Fund (EDF), *Taking Aim: Hitting the mark on oil and gas methane targets*, 2018.

[11] IEA website, Methane tracker.

[12] Carbon Brief, Methane emissions from fossil fuels 'severely underestimated', 2020.

coal mines, which is produced during the process of coal formation. Coal mine methane (CMM) can be released via degasification systems and ventilation air from underground coal mines, seepage from abandoned or closed mines through vent holes or cracks in the ground, coal seams of surface mines, and fugitive emissions during storage and transportation. Underground mines are responsible for the majority of coal methane emissions due to the higher gas content of deeper seams.

Oil and gas

Extraction of oil and gas is energy-intensive and generates GHG emissions. The amount of energy used depends on various parameters, such us type of fuel extracted, method of extraction, percentage of dry wells, well depth, and distance of pipeline. Energy is used for extraction, operating facilities and equipment, and transportation, all of which require fuel combustion, which releases CO_2. Energy is also required for liquefaction and regasification of natural gas (LNG) and oil refining.

Significant sources of GHG emissions from oil and gas operations include releases of CO_2 by flaring, which occurs at wellheads, in separation equipment and storage tanks, at compressor stations, during pipeline pigging, in refineries, and in electricity generating stations. Other emissions originate from fugitive gases during loading operations and tankage as well as losses from process equipment.

Oil and gas operations additionally emit significant amounts of methane to the atmosphere. The majority of emissions originates from upstream operations, specifically oil production, but emissions also derive from oil and gas processing, transmission and storage, local distribution, refining, manufacturing, and transportation.

FLARING AND VENTING

Flaring and venting involves the disposal of gas that cannot be contained or otherwise handled for safety or technical reasons. Sometimes gases are vented or flared for economic reasons. This is considered a waste of an energy resource that could support development and economic growth.

A large amount of associated gases from oil, gas, and coal operations is utilized or conserved. Still, routine flaring – defined as 'flaring during normal oil production operations in the absence of sufficient facilities or amenable geology to re-inject the produced gas, utilize it on-site, or dispatch it to a market' – occurs in many major oil- and gas-producing countries. In 2019, the World Bank estimates that around 4% of all natural gas produced was being wasted by flaring. The uptick of shale oil production has also increased flaring volumes.

As traditional oil and gas resources are depleted, the production of energy sources is moving to more sensitive and difficult environments, such as offshore deep water and oil sands. This trend has been shown to lead increased energy use in the sectors' operations. The rise of unconventional extraction methods, such as hydraulic fracturing and oil sands, has also resulted in increased energy use and a higher GHG intensity in oil and gas operations.

Product emissions (Scope 3)

While many oil, gas, and coal producers are trying to reduce operational emissions, most GHG emissions come from product use.

Coal is a carbon-intensive fuel, and its combustion generates the single largest source of global CO_2 emissions.[13] It is most used for electricity and heat generation, steel production, and cement manufacturing.

Oil combustion generates the second-largest source of CO_2 emissions. Together with natural gas, its use represents over half of global CO_2 emissions.[14] These emissions mostly come from electricity and heat generation, transportation, manufacturing industries, and construction.

What to report

If an organization in the oil, gas, or coal sector has identified GHG emissions as material, the following disclosures are appropriate for reporting on the topic:

1. *GRI 103: Management Approach,* including goals and targets on GHG emissions and approach and progress related to flaring and venting
2. *GRI 305: Emissions* to disclose:
   - Direct (Scope 1) GHG emissions, including percentage of methane emissions from gross Scope 1 emissions, disaggregating amounts of flared gas, vented gas, and fugitive emissions;
   - Energy indirect (Scope 2) GHG emissions;
   - Other indirect (Scope 3) GHG emissions;
   - GHG emissions intensity;
   - Reduction of GHG emissions;
3. *GRI 302: Energy* to disclose:
   - Energy consumption within the organization;
   - Energy intensity of products.

Organizations in these sectors should also disclose:

- Efforts to move towards less GHG-intensive operations and products when reporting on their Organizational profile and Strategy under *GRI 102: General Disclosures*.

For additional reporting support, organizations can consult the following resources:

- IPIECA, API, IOGP, *Sustainability reporting guidance for the oil and gas industry*, 2020 update [TBC]
- The World Bank, *Global Gas Flaring Reduction Partnership*
- World Resources Institute, *Estimating and Reporting the Comparative Emissions Impacts of Products*, 2019

[13] International Energy Agency (IEA), *CO2 Emissions from Fuel Combustion Highlights*, 2018.

[14] Ibid.

Climate resilience and transition

Continued reliance on oil, gas, and coal is set to raise GHG emissions to a level that would fail the world goal to keep 'well below 2 degrees' established in the Paris Agreement. In addition to GHG mitigation measures, organizations are increasingly seeking ways to adapt to changing climate. Both mitigation and adaptation are needed to reduce risks of disruptions from climate change, and to develop climate-resilient pathways addressing climate change and its threats to development.

Climate-related risks faced by organizations include transition risks that can affect the financial performance and physical risks driven by acute events and longer-term shifts in climate patterns, which can have additional societal impacts. These long-term shifts can also impact assets' safety, integrity, viability, and operational efficiency.

Opportunities related to climate resilience and transition include improved resource efficiency, adoption of low-emission energy sources and consumption patterns, new products and services and access to new markets.

Transition to low-carbon economies

Currently, global proved reserves of oil, gas, and coal significantly exceed that which can be combusted to stay within Paris Agreement limits. Organizations in the oil, gas, and coal sectors are under increasing pressure to align with a low-carbon energy transition in their portfolios and business models. This includes setting carbon emission targets that are compatible with carbon budgets, which indicate the cumulative amount of CO_2 emissions permitted over a period of time to keep within a certain temperature threshold.

Within a climate-resilient pathway, a company carbon budget can help framing the extent to which business activities can be pursued while keeping global warming to a well-below-2-degrees scenario. Current and potential impacts by emissions can be captured by considering the entire lifecycle emissions of oil, gas, and coal on all exploited and sanctioned assets. Once constraints are framed by company carbon budgets, companies can better establish the relevant mitigation and adaptation measures to navigate a climate-resilient pathway. The more stringent the budget, the greater the required changes, which include diversification and portfolio reassessment.

Another challenge emerges from related socioeconomic implications, including on the sectors' workforce, communities, and whole nations whose economies rely on income from the exploitation of oil, gas, and coal. In the coming decades, more closures will likely occur without being balanced by openings as in the past. This social impact in areas where employment, further job creation and economic development depends on oil, gas or coal will be significant. Countries – and particularly those with emerging economies – whose global domestic products (GDP) heavily rely on oil, gas, and coal face greater transition-related challenges. Workers face risks related to their employability and finding desirable re-employment. Besides facing possible environmental legacy costs related to asset decommissioning and site restoration, regions are forced to adjust to significant losses of economic activity in local communities. Other impacts include physical damage to an organization's assets, which can affect the safety of employees and local communities, or disruptions in operations, which can cause gaps in energy supply and impact energy security.

Transition can offer communities opportunities to transform economic activity, and provide new employment opportunities and skills development.

To create opportunities for those most affected by the low-carbon transition, it is essential to anticipate and facilitate workforce retraining and mobility workforce through active dialogue between governments, employers, and workers in order.

What to report

If an organization in the oil, gas, or coal sector has identified climate resilience and transition as material, the following disclosures are appropriate for reporting on the topic:

1. *GRI 103: Management Approach*, including:
- Governance on climate change, responsibility for managing the topic and whether the responsibility is linked to performance assessments or incentive mechanisms
- Policies and strategy on climate change and just transition measures;
- Scenarios (if any) used for outlining risks and opportunities

2. *GRI 201: Economic Performance* to disclose risks and opportunities related to climate change, including for the environment and society at large

Organizations in these sectors should also disclose:

- Description of the company's business model and lines of business when reporting on *GRI 102-2: Activities, brands, products, and services*
- How the organization approaches resilience and transition when reporting on *GRI 413: Local Communities* and *GRI 404: Training and Education*
- Oil, gas, and coal production volumes for the reporting year and projected values for the next 5 years by resource type in percentages (thermal coal, metallurgical coal, crude oil, natural gas, oil sands, tight oil, and shale gas)
- Estimated reserves by resource type and emission potential of these reserves
- Energy production from renewable sources by type of energy source and investment into renewable energy, including projections for the next five years (percentage of total CAPEX and current total revenue)
- Investments in exploration of new fossil fuel reserves and development of new fields (percentage of total CAPEX)
- Investments in nature-based solutions to climate mitigation and technologies to remove CO_2 and net captured value of CO_2 removed
- Decisions not to invest in new oil, gas, and coal developments and project divestments

For additional reporting support, organizations can consult the following resources:

- Task Force on Climate-Related Financial Disclosure, *Recommendations of the Task Force on Climate-related Financial Disclosure*, 2017
- Task Force on Climate-Related Financial Disclosure, *The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities*, 2017
- Transition Pathway Initiative, *Methodology and Indicators Report*, 2019
- World Bank, *Managing Coal Mine Closure: Achieving a Just Transition*, 2018
- World Resources Institute, *A Recommended Methodology for Estimating and Reporting the Potential Greenhouse Gas Emissions from Fossil Fuel Reserves*, 2016

Environment and biodiversity

This section describes the oil, gas, and coal sectors' significant impacts on the environment. Impacts can have widespread and long-lasting consequences on local ecosystems and people associated with or adjacent to the sectors' activities. The topics in this section cover impacts across upstream and downstream oil, gas, and coal activities.

Topics in this section include:

Air emissions	*Air emissions are pollutants that can have adverse significant impacts on ecosystems, air quality, agriculture, and human and animal health. This topic covers such pollutants including sulfur dioxides (SO_x); nitrogen oxides (NO_x); particulate matter (PM); volatile organic compounds (VOC); carbon monoxide (CO); and heavy metals such as lead, mercury, and cadmium. Methane (CH_4) is also considered an air pollutant, but it is reported in the context of GHG emissions.*
Biodiversity	*Biodiversity has intrinsic value, and is closely interconnected with climate, human well-being, and economic prosperity. This topic covers direct, indirect, and cumulative impacts on biodiversity, including plant and animal species, genetic diversity, and natural ecosystems, from oil, gas, and coal activities.*
Waste	*Waste refers to non-hazardous and sometimes hazardous material with low liquid content, generated as a by-product, to be disposed. This topic covers waste impacts that result* from *oil, gas, and coal* activities*, including construction projects and remediation activities from active and inactive sites.*
Water and effluents	*The amount of water withdrawn and consumed by an organization and the quality of its discharges can impact the functioning of an ecosystem and have social and economic consequences for local communities and indigenous peoples. This topic covers impacts on freshwater – including groundwater – surface water, and seawater.*
Closure and decommissioning	*This topic covers closure and decommissioning that might happen as a result of depletion of accessible resources; for economic, financial, or political reasons; or due to social conflicts and human rights issues.* *Failure to soundly shut down and rehabilitate sites can render land unusable for other productive uses, cause safety hazards and health risks for local communities, and negatively impact biodiversity.*

Air emissions

Emissions from oil, gas, and coal activities and use constitute the most significant anthropogenic sources of air pollutants. Air emissions originate from combustion, extraction, and processing.[15]

Air pollution causes severe negative health impacts globally. Millions of deaths are linked to air pollution, which can contribute to heart disease, stroke, chronic obstructive pulmonary disease, lung cancer, acute respiratory infections, and neurological damage.[16] Children, the elderly, and the poor are disproportionately affected. Emissions can also have significant impacts on local communities.

Air pollution also negatively impacts ecosystems. For example, nitrogen from emissions that enters the oceans can alter ocean chemistry, negatively impacting marine life. Sulfur oxides can lead to acid rain and increases ocean acidification. Air pollution can also cause damage, reduce growth, and impair photosynthesis.

Coal

Air emissions from coal operations include particulate matter from coal dust, methane emissions from coal seams, sulfur dioxide, nitrogen oxides, and carbon monoxide. These emissions can occur from:

- Fugitive dust emissions from drilling, blasting, storage, transportation, loading, and unloading;
- Fugitive or vented methane emissions from extraction, post-mining activities, and decommissioned underground mines;
- Fuel combustion onsite in vehicles or equipment;
- Evaporation from tailings ponds or waste areas.

Oil and gas

Air emissions from oil and gas operations include methane, nitrogen oxides (NO_x), sulfur oxides (SO_x), VOCs, particulate matter (PM), ozone, and other hazardous air pollutants (HAP), such as hydrogen sulfide (H_2S), and benzene (C_6H_6). These emissions can occur from:

- Venting, flaring, and blowdowns;
- Fugitive emissions from equipment leaks, evaporation losses, accidents, and equipment failures;
- Boilers, terminals, and storage tanks;
- Flowback operations;
- Waste impoundments and storage;
- Pipeline pigging and blowdowns;
- Fuel combustion from equipment used during construction, operations, and supply of operations;

[15] International Energy Agency (IEA), *Energy and Air Pollution - World Energy Outlook 2016 Special Report*, 2016.
[16] Burnett, R. et al. Global estimates of mortality associated with long-term exposure to outdoor fine particulate matter, *PNAS*, 2018 115 (38).

- Refining and processing activities;
- Transportation of supplies and products.

What to report

If an organization in the oil, gas, or coal sector has identified air emissions as material, the following disclosures are appropriate for reporting on the topic:

1. *GRI 103: Management Approach*

2. *GRI 305: Emissions* to disclose significant air emissions, including nitrogen oxides (NO_x), sulfur oxides (SO_x), particulate matter (PM), volatile organic compounds (VOCs), carbon monoxide (CO), and hazardous air pollutants (HAP)

Organizations in these sectors should also disclose:

- Significant negative air quality impacts of operations on local communities, when reporting on *GRI 413: Local Communities*
- Efforts to improve product quality to reduce impacts of air emissions resulting from product use, using *GRI 416: Customer Health and Safety*

Biodiversity

Oil, gas, and coal activities typically require large-scale infrastructure development, which have direct, indirect, and cumulative impacts on biodiversity occurring both short and long term. Direct impacts can include:

- Soil, air, and water contamination;
- Species mortality;
- Habitat fragmentation and conversion;
- Deforestation;
- Soil erosion;
- Sedimentation of waterways;
- Visual and noise disturbance;
- Introduction of invasive species and pathogens.

Impacts on species and ecosystems can also be the result of cumulative impacts. For example, habitat fragmentation caused by a pipeline can be compounded by land use change from agricultural operations. Impacts can also accumulate over time. Due to the scale and long lifespans of oil, gas, and coal projects, impacts can occur well beyond a project's temporal and geographical perimeters, including during post-**decommissioning and closure**.

These impacts can generate effects on other receptors. Oil, gas, and coal operations can have direct biodiversity related impacts on **local communities**, for example, by limiting resource availability, accessibility, or quality. Due to extensive land use required for many oil, gas, and coal projects, the sectors' activities can further contribute to **climate change** through land-use change that can result in removal of carbon sinks.

Oil, gas, and coal resources are often located in sensitive ecosystems or areas with high biodiversity value, which can exacerbate the impacts on biodiversity. Many countries with areas of high biodiversity are characterized by weak governance and poor implementation of environmental regulations, increasing the risks they face due to oil, gas, and coal exploration.

Increased human settlement around operational sites can have indirect impacts, such as stress on ecologically sensitive areas and newly opened routes to previously inaccessible areas. A further threat to biodiversity related to the sectors emerges from **GHG emissions** and how they cause climate change. Affecting all aspects of biodiversity – including individual organisms, populations, species distribution, and ecosystem composition and function – climate change has impacts that are anticipated to worsen over the coming decades as temperatures continue to rise.

The oil, gas, and coal sectors have developed a mitigation hierarchy tool, which can be used to limit and manage the negative impacts of projects on biodiversity and ecosystem services.

Coal

Different mining methods present distinct risks for biodiversity. The environmental footprint of open-pit mines is generally larger than underground mines because open-pit mines must be progressively deepened and widened, which increases the areas affected. Artisanal and small-scale mining for coal might also be practiced without following good practices for environmental management in remote, pristine, or protected areas.

Biodiversity impacts associated with coal mining can result from:

- Land clearance for pits, access routes, and progressive expansion into new areas;

- Introduction of invasive species;
- Habitat fragmentation from access roads and other linear infrastructure;
- Disruption of surface water, wetland, and groundwater ecosystems;
- Dewatering or diversion of surface watercourses, effluent discharges, migration of acidic groundwater, and abstraction of surface or groundwater;
- Groundwater or surface stream contamination from coal tailings ponds.

Oil and gas

Biodiversity impacts of oil and gas activities vary depending on production methods. Threats to biodiversity increase as easily accessible oil and gas resources are depleted and exploration moves into more remote areas. These could include specific ecosystems or environments, such as ultra-deep water, about whose value little information exists. Unconventionally produced oil and gas, such as shale oil and gas, have a greater footprint than conventional production because the greater number of wells required increases potential for habitat loss and fragmentation. Currently exploited oil and gas tend to be found in areas with high biodiversity value, both on land and in the sea.

Biodiversity impacts associated with oil and gas can result from:

- Land clearance;
- Noise and light disturbances;
- Seismic testing and drilling of exploration wells;
- Construction of encampments and infrastructure and transportation of equipment, supplies, and materials;
- Introduction of invasive species;
- Spills and leaks;
- Pipeline construction and use as right-of-way;
- Generation, use, and disposal of produced water and other hazardous liquid wastes;
- Burial of drilling waste;
- Gas leakage and methane migration into freshwater from hydraulic fracturing.

What to report

If an organization in the oil, gas, or coal sector has identified biodiversity as material, the following disclosures are appropriate for reporting on the topic:

1. *GRI 103: Management Approach*, including approach to mitigation hierarchy and local engagement with regard to biodiversity assessment and action plans

2. *GRI 304: Biodiversity* to disclose:
   - Operational sites owned, leased, or managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas
   - Significant impacts of activities, products, and services on biodiversity, including with reference to habitats and ecosystems
   - Habitats protected or restored, including under implementation of the mitigation hierarchy, and restoration activities under additional conservation actions
   - IUCN Red List species and national conservation list species with habitats in areas affected by operations

Organizations in these sectors should also disclose:

- The significant actual and potential negative biodiversity impacts of operations on local communities, when reporting on *GRI 413: Local Communities*

For additional reporting support, organizations can consult the following resources:

- International Finance Corporation Performance Standard 6: *Biodiversity Conservation and Sustainable Management of Natural Resources*, 2012
- ICMM *Good Practice Guidance for Mining and Biodiversity*, 2006
- ICMM, IPIECA, Equator Principles, *A cross-sector guide for implementing the Mitigation Hierarchy*, 2017
- IPIECA, IOGP, *Biodiversity and ecosystem services fundamentals*, 2016

Waste

Extraction of fossil fuels generates various waste streams, often containing toxic or noxious substances and including heavy metals. Effective waste management and minimization are critical for ensuring local communities' safety and health and preventing damage to local flora and fauna. Impacts of waste can include surface and groundwater contamination and contamination of food sources with chemicals or heavy metals, causing risks for human health and safety and environmental pollution. Further effects can be loss of land productivity, dust, and erosion. The severity of waste impacts is a result of how the waste is managed at both generation and final disposal sites.

At the end of a project life cycle, **decommissioning and closure** are significant sources of waste, sometimes requiring decades of management. These effects can have lasting environmental and socioeconomic consequences.

Coal

The most significant waste stream from coal operations comprises rock waste and tailings. The overburden and waste rock is often disposed in constructed waste rock dumps. Taking the form of a liquid slurry, tailings are a by-product of extraction. Coarse tailings are usually managed on heaps or in former open-pit operations, while slurried fines are generally discarded into ponds, filtered, or stored in heaps. Tailings ponds can cover vast areas, and can be contained by tailings dams. Tailings without harmful substances can be drained and stored until being reshaped and covered with soil and vegetated. However, tailings pose a health risk for **local communities** when they contain heavy metals, cyanide, chemical-processing agents, sulfides, and suspended solids that can pollute the environment, including groundwater and surface water.

Other types of solid wastes from mining operations include household and non-process-related industrial waste as well as waste oils, chemicals, and other potentially hazardous wastes.

Oil and gas

In traditional oil and gas exploration and production, the largest waste stream derives from drilling, which can consist of rock cuttings and water and drilling muds. These, in turn, comprise water, clay, hydrocarbons, and additives, such as weighting materials and chemicals. Research has shown that horizontal drilling and hydraulic fracturing increase types and amounts of contaminants in drilling waste. Additional waste streams from drilling include produced sand, which can be contaminated with hydrocarbons; completion and well work-over fluids; and tank bottoms and pipe scale. All these streams can contain naturally occurring radioactive materials.

Drilling waste can contain salts, metals, hydrocarbons, and chemical additives. Released in an uncontrolled manner into the environment, it therefore might impact vegetation, flora and fauna, surface water, and groundwater. In remote areas where limited disposal methods are available, waste impacts can be more severe or take longer to manifest. For lack of an alternative outlet, drilling fluids might also be discharged to the sea, including over significant areas of seabed.

Other typical non-hazardous and hazardous wastes generated at oil and gas facilities include process waste from oil handling, such as chemicals and waste oils; maintenance waste, such as construction waste, oily rags, and used batteries; commercial waste, such as office and packaging wastes; food waste; and medical waste.

In oil sands surface mining, the largest waste streams constitute topsoil and overburden as well as tailings. In oil sands operations, tailings are generated as a by-product of a treatment process used to separate oil from sand and clay. Creating a toxic waste, tailings are a mixture of water, sand, clay, residual bitumen and other hydrocarbons and organics, salts, and trace metals. Some tailings ponds have been found to leach chemicals into the environment, causing health risks for local communities' wildlife. They also pose a risk to birds that land on ponds and drown from oiling.

MATERIALS EFFICIENCY

Global use of materials is increasing, having more than tripled since 1970. In current consumption and production patterns, most of these materials are lost beyond recovery after being dispersed in the form of emissions or as unrecoverable waste. Sustainable consumption and production imply better management, more efficient use of natural resources, and less waste generation. Along with prevention, reduction, recycling, and reuse, the pursuit of sustainable consumption and production involves new approaches to materials use drawn from features of a circular economy.

Production of oil, gas, and coal largely consists of using water and chemicals according to required extraction and processing methods. However, much of the sectors' impacts from material use come from infrastructure development. Construction, commissioning, and **decommissioning and closure** of oil, gas, and coal projects involve substantial use of steel and concrete. New approaches to sustainable consumption and production patterns could thus be enabled by leveraging the sectors' significant purchasing power to influence steel and concrete production modes.

What to report

If an organization in the oil, gas, or coal sector has identified waste as material, the following disclosures are appropriate for reporting on the topic:

1. *GRI 103: Management Approach*, including the principle for waste reduction

2. *GRI 306: Waste* to disclose:
   - Waste by type and disposal method, including:
     - drilling waste (muds and cuttings)
     - total amounts of overburden, rock, and sludges generated and any associated risks
     - volume and area of tailings ponds
   - Transportation of hazardous waste

3. Types of tailings facilities the organization owns

Organizations in these sectors should also disclose:
- The significant actual and potential negative waste impacts of operations on local communities, when reporting on *GRI 413: Local Communities*

For additional reporting support, organizations can consult the following resources:
- IFC, *Environmental, Health, and Safety Guidelines for Waste Management*
- ICMM Tailings Standard *[announced in 2019 for development]*
- IOGP *Guidelines for waste management with special focus on areas with limited infrastructure*
- IPIECA, *Petroleum refinery waste management and minimization*, 2014

Water and effluents

Water is used in every step of oil, gas, and coal extraction and processing. In operations, water is often drawn from local sources, which can impact the supply of water available for **local communities** and other sectors that require water use. Water discharges from operations, spills, and leaks can have negative impacts on surface water and groundwater quality.

Coal mining and certain methods of oil and gas extraction, such as hydraulic fracturing and oil sands operations, are particularly water-intensive. A large proportion of the world's oil, gas, and coal resources are found in areas that are arid or experience water stress. In such areas, these sectors' activities are likely to increase competition for water with other uses, such as for household use, fishing, or agriculture, and exacerbate tensions between sectors. The amount of water required for operations is dictated by the ability to substitute water, water quality, reservoir characteristics, and recycling infrastructure. In regions where water is scarce or in high demand for other uses, operations can use alternate sources, such as saline water or recycled wastewater. Droughts, floods, and other extreme weather events related to climate change will likely pose more challenges related to water availability and quality.

Oil, gas, and coal activities can also have significant impacts on surface water and groundwater quality. Heavy metals and pollutants from oil and gas exploration and oil sands can accumulate in groundwater, lakes, and reservoirs; contaminate aquifers with methane; and pollute streams receiving water discharges and downstream communities following dam removal. Water pollution can have long-term implications for ecosystems and **biodiversity**, spread waterborne diseases, cause health and development problems for humans, and impair food-chain productivity. The vegetation clearance and land use changes required to begin oil, gas and coal production can impact water availability and quality as well as lead to erosion and sediments flows.

Coal

Water in coal mining is used for cooling and cutting in mines, dust suppression in mining and hauling; washing to improve coal quality; re-vegetation of surface mines; and long-distance transportation of coal slurry. Withdrawal of water for coal mining can cause significant groundwater losses. The amount of water needed for operations depends on whether mining is surface or underground as well as on processing and transportation requirements. Washing coal, for example, increases its quality, but requires additional water consumption. Certain methods, such as mountaintop removal, can significantly alter hydrological and ecosystem functioning. Alterations in water flows and increased sedimentation impact water quality and aquatic and terrestrial habitats and can reduce water availability for local communities.

Water discharges from operations to water bodies can be contaminated, while underground operations might disrupt or contaminate aquifers. Acid mine drainage – a metal-rich and highly acidic run-off produced from mining sites – frequently results in high concentrations of chemical elements that can have serious environmental impacts to surface water and groundwater. Other impacts to surface water and groundwater can occur from leeching and failure of mine tailings ponds. Waterways, and particularly wetlands, can be contaminated when transportation accidents and related coal spills result in the release of harmful materials, such as mercury, sulfur compounds, arsenic, and lead.

Further water impacts from coal use can result from:

- Water withdrawal by power plants for cooling and steam generation;
- Failure and spills of coal ash retention ponds;

- Acid precipitation from power plants;
- Thermal pollution from power plants;
- Polluted water discharges from power plants.

Oil and gas

The amount of water used in oil and gas production depends on factors, such as fuel type, method of extraction, geology, and the degree of processing required.

Discharges of wastewaters from oil and gas production can have significant impacts on water quality. Extraction of oil and gas from underground reservoirs is often accompanied by water or brine, which is referred to as 'produced water'. It is the largest wastewater source by volume generated during oil and gas extraction. Produced water that is not reinjected into or discharged to the ocean can be stored in retention ponds or discharged to land or water, potentially causing surface water and groundwater contamination. Contamination can also occur from spills and injection of drilling fluids into wells and flowback from hydraulic fracturing.

Hydraulic fracturing and other forms of well stimulation for extracting oil and tar sands can increase the mobility of underground contaminants and pollute groundwater resources. Seepage or a failure of an oil sands tailings dam can also have significant impacts on surface and groundwater quality.

If not properly managed, chemical wastes generated by processing and refining fossil fuels can contaminate water with petroleum wastes, heavy metals, chemicals, and other contaminants. Oil spills from transportation accidents and ruptured pipelines can similarly have negative impacts on local water resources.

Further water impacts from the use of oil and gas can result from:

- Water withdrawals by power plants for cooling and steam generation;
- Thermal pollution from power plants.

What to report

If an organization in the oil, gas, or coal sector has identified water and effluents as material, the following disclosures are appropriate for reporting on the topic:

1. *GRI 103: Management Approach*

2. *GRI 303: Water and Effluents* to disclose:
   - Interactions with water as a shared resource
   - Management of water discharge-related impacts
   - Water withdrawal
   - Water discharge, including total volume of hydrocarbon discharged within produced water
   - Water consumption

Reporting organizations in these sectors should also disclose:

- The actual and potential negative significant impacts of freshwater use and discharges of operations on local communities, when reporting on *GRI 413: Local Communities*

For additional reporting support, organizations can consult the following resources:

- ICMM: *Water Stewardship Framework*
- IPIECA: *The IPIECA Water Management Framework for onshore oil and gas activities*

Closure and decommissioning

Oil and gas fields and coal mines have a finite lifespan, requiring their sites to be closed and rehabilitated and their assets decommissioned. This requires planning while the project's life cycle is in its early phases, and plans should consider economic, environmental, and societal impacts well as the local community's health and safety.

The development of an oil or gas field, or coal or oil sands mining operation, including associated processing facilities and infrastructure, usually involves permanent alteration of existing landforms, disturbance to vegetation and flora, disruption of habitats, hydrological impacts, impacts on marine biodiversity, and/or potential contamination. Failure to soundly close and rehabilitate sites can render land used for operations unusable for other productive uses. It can cause safety hazards and health risks for **local communities** and negatively affect **biodiversity**. Decommissioning typically requires an additional influx of a larger workforce for an extended period, which can also exacerbate other pressures on the environment. Without clearly assigned responsible parties or funds, decommissioned and closed oil and gas fields and coal mines can also leave behind legacy environmental issues and costs for local communities.

Coal

Coal mining operations have impacts on significant areas of land, and closure might require the following actions:

- Stabilization of open pit or underground workings and removal or conversion of infrastructure to ensure safety of humans and biodiversity;
- Rehabilitation of waste rock stockpiles and tailings impoundments to control erosion and land degradation;
- Management of waste, surface water, and groundwater quality issues resulting from abandoned rock drainage, waste rock, and tailings leaching;
- Ensuring a stable and sustainable ecosystem, compatible with planned post-closure land use;
- Post-closure monitoring to ensure sound management of potential environmental issues.

Environmental impacts from the closure of surface and underground mining can differ. For example, coal mine methane from abandoned underground mines contributes to GHG emissions even after active mining stops.

Oil and gas

Closure and decommissioning oil and gas fields can comprise the following activities:

- Removal and final disposal of hazardous materials and chemicals from an asset;
- Capping or plugging of abandoned wells;
- Dismantling and removal of structures used during resource exploitation;
- Remediation of areas of land or water to restore environmental conditions to acceptable levels;
- Restoration of disturbed lands to similar pre-development condition, other economically productive use, or natural or semi-natural habitat.

Impacts and activities related to closure and decommissioning of oil sands projects often resemble those of coal mines.

Inadequate measures to decommission onshore oil and gas fields can lead to contamination of soil and water; surface hydrology erosion and other changes; habitat loss; human, cultural, and wildlife disturbances; safety hazards; socioeconomic impacts; and land and resource use changes.

Decommissioning offshore structures can be more complex and costly than for onshore operations. International conventions require decommissioning all offshore platforms at the end of field life. Leaving offshore installations intact after decommissioning might cause marine pollution from corrosion, toxic materials left in the installations, ecosystem changes, damage to fishing equipment, and navigational hazards risks to shipping. However, leaving them intact might be considered an appropriate solution in cases where rigs have been colonized and become integral to the benthic community.

SOCIOECONOMIC CONTEXT OF CLOSURE

Socioeconomic impacts also emerge from the closure and decommissioning of oil and gas fields and coal mines. Over the course of an exploitation, communities might come to depend on the operator for employment, royalties, tax revenues, charitable contributions, and other benefits. Insufficient notice of closure or lack of adequate planning for economic revitalization, social protection, and labor transition can hinder the social transition of local communities to a post-closure period and cause retrenchment and social unrest. After exploitation ends, abandoning oil and gas fields and coal mines can cause the impacts' costs to be externalized to communities or host countries. This is often the result of inadequate planning, insufficient government regulation setting clear expectations, or lack of financial resources allocated by the operator for the closure and decommissioning phase.

The need to reduce GHGs and **transition to low-carbon economies** increases the likelihood that the coming decades will see more closures, which will not, as in the past, be counterbalanced by openings. In areas where employment largely derives from the oil, gas, and coal industries, social impacts will be significant, requiring collaboration between local and national governments and companies to ensure a just transition.

What to report

If an organization in the oil, gas, or coal sector has identified closure and decommissioning as material, the following disclosures are appropriate for reporting:

1. *GRI 103: Management Approach,* including financial provisions for decommissioning and closure and post-closure monitoring

2. Number and percentage of operations that have closure or decommissioning plans in place

3. *GRI 402: Labor/Management Relations* to disclose notice periods for closure and consultation with workers

4. *GRI 404: Training and Education* to disclose programs for upgrading employee skills and transition assistance, including other relevant programs, such as worker transfer

5. Number of sites that are decommissioned or in the process of being decommissioned.

Organizations in these sectors should also disclose:

- The significant negative impacts of closure and decommissioning on local communities when reporting on *GRI 413: Local Communities*
- Breakdown of onshore and offshore sites when reporting sites with closure or decommissioning plans in place

For additional reporting support, organizations can consult the following resources:

- ICMM, *Integrated Mine Closure – Good Practice Guide*
- IOGP, *Decommissioning of offshore concrete gravity based structures (CGBS) in the OSPAR maritime area/other global regions*, 2012
- IOGP, *Decommissioning remediation and reclamation guidelines for onshore E&P sites*, 1996
- World Bank, *Managing Coal Mine Closure: Achieving a Just Transition for All*, 2018

Communities

This section describes the oil, gas, and coal sectors' significant impacts and stakeholder concerns related to communities affected by oil, gas, and coal activities across upstream and downstream operations.

Topics in this section include:

Economic impacts	*This topics covers economic impacts from oil, gas, and coal activities on the economic conditions of its stakeholders at the local, national, and global level, such that influence a community's or a region's wellbeing and longer-term prospects for development.*
Local community impacts	*This topic covers social, cultural, and/or environmental impacts on local communities from oil, gas, and coal activities and infrastructure. The local community can range from persons living adjacent to an organization's operations, to those living at a distance who are still likely to be impacted by these operations.*
Land use and resettlement	*This topic covers impacts from land acquisition and use by oil, gas, and coal activities on a community's rights to land, along with other rights, by restricting access to resources, livelihoods, and involuntary resettlement of communities and individuals using the land.*
Rights of indigenous peoples	*This topic covers how indigenous peoples often have customary cultural, economic, social, and political institutions distinct from those of the dominant society or culture, or lack economic resources, rendering them vulnerable to impacts caused by oil, gas, and coal activities.*
Conflict and security	*This topic covers the conduct of security personnel towards third parties, including the risk of excessive use of force or other violations of human rights by an organization's own security personnel or through suppliers, government forces, private military, or security companies.*

Economic impacts

Opportunities for positive impacts lie in the conversion of natural resources into financial resources. This can stimulate economies, local content, and community development through local employment or supply or investment in development of enabling infrastructure, for example, public power utilities to improve access to energy. Impacts vary according to operational scale and importance in a given economic context. In some resource-rich countries, oil, gas, and coal activities are one of the most important sources of investment and income, accounting for a significant amount of national gross domestic product. However, if not well managed, this can harm economic performance and lead to macroeconomic instability and distortions.[17] Economies dependent on these finite resources can be vulnerable to commodity price and production fluctuations.

Economic contributions vary according to a project's life cycle phase. For instance, development and operations phases can lead to revenue, royalties, and tax payments, as well as development of new infrastructure, job opportunities, and a boost to the local economy. However, oil, gas, and coal activities can also generate environmental legacy costs that only become visible once operations have stopped or an incident has occurred. An example is the loss of productive land, water, and ecosystems. Lack of proper rehabilitation can render them unavailable for other economic uses. It is also anticipated that stricter climate policies and technological developments supporting a transition to low-carbon economies will lead to an increase of closures and risks of stranded assets in oil, gas, and coal. Countries or communities where employment or revenues derive from these sectors will likely be subject to resulting economic impacts. Collaboration between local and national governments and organizations will be required to ensure a just transition (see also **Closure and decommissioning**).

New employment and supply opportunities are a direct economic impact for local communities. The construction phase generally creates the most job opportunities. Increased wages brought by new employment often equal increased purchasing power, with the potential to impact local businesses positively. However, higher wages can also lead to job competition and economic disparity, with vulnerable groups often disproportionately negatively affected. The net employment impacts of oil, gas, and coal activities on local communities ultimately depends on how they affect employment in pre-existing activities, such as agriculture or small-scale mining.

Economic impacts can vary based on **employment practices**. For example, organizations can opt for a 'fly-in fly-out' work approach. In anticipation of closure and decommissioning phases, this could offset pressures associated with influxes of people in small communities while still supplying the necessary workers.

The extent to which local communities can benefit depends on local development and industrialization levels. Companies might involve external companies with sometimes high numbers of workers to supply them with products or services. A growing population often increases pressure

[17] UNCTAD, Extractive industries: Optimizing the value retention in host countries, 2012, p. 9.

on housing, infrastructure, and public services, the costs of which tend to fall on communities rather than resource developers.

What to report

If an organization in the oil, gas, or coal sector has identified economic impacts as material, the following disclosures are appropriate for reporting on the topic:

1. *GRI 103: Management Approach,* including strategies, programs, and procedures aimed at providing employment opportunities to residents or host-country nationals

2. *GRI 201: Economic Performance* to disclose direct economic value generated and distributed on national, regional, and project levels

3. *GRI 203: Indirect Economic Impacts* to disclose:
   - Infrastructure investments and services supported, including the extent to which different communities or local economies are impacted by infrastructure investments and services supported in areas of operations
   - Significant indirect economic impacts

4. *GRI 204: Procurement Practices* to disclose proportion of spending on local suppliers

For additional reporting support, organizations can consult the following resources:

- IPIECA, *Local content, A guidance document for the oil and gas industry*, second edition, 2016
- OECD, *Collaborative Strategies for In-Country Shared Value Creation*, 2016

Local community impacts

The introduction of oil gas, and coal activities can result in various social impacts on local communities. Significant impacts on communities include:

- Displacement and loss of access to land, water, and services
- Loss or disruption on (traditional) livelihoods
- Pressure on local infrastructure, services, and resources
- Inflation of prices and impoverishment
- Social disruption and conflict
- Health, safety, and security risks
- Reduced standard of living
- Increased inequalities

Land use requirements can cause displacement and loss of access to land and water, which can lead to competition over other land uses, such as farming, as well as disrupt traditional livelihoods, increase risks of impoverishment, and restrict access to essential services, such as education and healthcare. The sectors' activities can also incur damage to cultural heritage sites, potentially leading to loss of culture, tradition, or cultural identity, especially among indigenous peoples (see also **Rights of indigenous peoples**).

The influx of workers during the construction or expansion phase of a project can result in a range of impacts. For instance, large-scale in-migration of expatriate workers – defined as temporary workers who are usually brought in by employers – can put local services and resources under pressure. Locals can suffer from inflation on housing and food costs, which might increase homelessness especially among vulnerable groups. The influx of cash associated with in-migration and new employment opportunities can also lead to social disruption, taking the form of, for example, increased alcohol consumption, prostitution, and gambling.

Impacts on community health, safety, and well-being can come from water, air, and soil pollution related to chemical use, emissions, waste streams, leaks, noise and blasting from construction and operations, and light from flares and dust, especially from coal operations, transportation, and handling (see also **Environment** section). Community safety is also threatened by potential accidents, such as mine collapses, tailings dams or pipelines failures; spills, explosions, and fires (see also **Asset integrity and process safety**). Increased traffic to operating sites can pose additional road accident hazards. New communicable diseases can be introduced by expatriate workers. Women, in particular, can be impacted by the influx of a male-dominated workforce, leading to a rise in sexual violence and sexually transmitted diseases.

Communities can also experience conflicts when subjected to benefits that are disproportionately small relative to impacts (see also **Conflict and security**). Effective local community engagement can mitigate the social impacts of oil, gas, and coal projects. If community engagement is flawed or overlooked, community concerns might not be understood or left unaddressed, exacerbating existing or creating new impacts.

What to report

If an organization in the oil, gas, or coal sector has identified local community impacts as material, the following disclosures are appropriate for reporting on the topic:

1. *GRI 103: Management Approach*, including identification, engagement, and management of vulnerable groups, other stakeholders, and their related rights as well as how organizations or third parties are engaged in managing and addressing risks and impacts

2. *GRI 413: Local Communities* to disclose:
   - Operations with local community engagement, impact assessments, and development programs
   - Operations with significant actual and potential negative impacts on local communities, including exposure of the local community to the organization's operations due to above-average use of hazardous substances with environmental and health impacts

Organizations in these sectors should also disclose the number and description of significant disputes with local communities and indigenous peoples, including actions taken and outcomes.

For additional reporting support, organizations can consult the following resources:

- IFC, *Performance Standard 4 Community Health, Safety, and Security*, 2012
- IPIECA, API, IOGP, *Sustainability reporting guidelines for the oil and gas industry*, 2020 update [TBC]

Land use and resettlement

Oil, gas, and coal operations require access to land for exploration, extraction, waste storage, processing and housing facilities, access routes, and transportation. Impacts from land use can vary between different methods of extraction, location of the resource, processing required, and transportation methods. For example, open-pit mining usually has a larger impact on displacement than underground coal mining. For oil and gas, onshore pipelines can require extensive land use due to their reach across long distances and safety buffer zones, which can restrict access to resources and inflict conflicts.

Examples of impacts of land use and acquisition for the sectors include:

- Resettlement of communities away from their lands, homes, and livelihoods, contributing to long-term hardship and impoverishment for the affected communities and loss of cultural and language connection;
- Restricted or loss of access to land or water bodies that provide natural resources for communities – including agricultural lands, forests, and fishing and hunting grounds – leading to loss of livelihood or identity;
- Restricted access to services, such as schools or healthcare;
- Loss of access to or disturbance of religious or sacred sites or places of cultural heritage belonging to indigenous peoples;
- Lack of proper compensation to the affected communities, leading to disputes, social and economic tensions, and sometimes conflict.

Conflicts between local communities and organizations operating in the oil, gas, and coal sectors can often arise when tenure rules are unclear regarding rights to access, use, and control land and diverging land use needs. For example, the relationship between subsurface (i.e., mineral) rights and surface (i.e., land) rights can be unclear; formal statutory tenure rules can overlap or conflict with traditional customary rules; legitimate rights might not be recognized or enforced; or people can lack formal documentation of their rights to land.

Resettlement is often associated with temporary or permanent negative impacts on livelihoods and income-generating activities of the displaced populations. Involuntary resettlement includes physical displacement (i.e., relocation or shelter loss) and economic displacement (i.e., loss of assets or access, which results in losing income or other means for livelihood), and affects individuals and local communities associated with project-related activities.

Local communities can receive monetary compensation or equivalent land for lost assets. In some cases, governments might take responsibility for consulting with communities on relocation and ensuring compensation be paid. However, determining the value of loss of access to the natural environments is complex because considerations must include income-generating activities, human health, and non-material aspects of quality of life, such as psychological experiences that support community identities. The amount of compensation might therefore prove unrepresentative of the loss; individuals who hold customary title to the land might not be compensated at all; or individuals might only get compensated for crops, not land. Inappropriate compensation for the affected communities can cause or exacerbate existing disputes, social and economic tensions, and conflict.

Impacts of resettling communities can be exacerbated by a flawed process or lack transparency, for example, in cases of poor community consultation or in the absence of free, prior, and informed consent (FPIC) (see also **Local community impacts** and **Rights of indigenous peoples**).

Resettlement practices can additionally pose risks to human rights. If the host-country government has weak capacity or a poor record of engaging with affected communities, the likelihood of negative impacts on human rights rises. In these cases, affected communities and individuals are more vulnerable to wrongful displacement, eviction, and resettlement. In addition, community members resisting resettlement can face threats and intimidation as well as violent, repressive, or life-threatening removal from lands.

Other risk factors include regional resource scarcity; unique status or vulnerability of the local communities; and land users' lack of formal rights.

What to report

If an organization in the oil, gas, or coal sector has identified land use and resettlement as material, the following disclosures are appropriate for reporting on the topic:

1. *GRI 103: Management Approach* to disclose:
   - approach for avoiding, mitigating, or compensating resettlement
   - programs and procedures for involuntary resettlement
   - how community (including that of indigenous peoples) reliance on natural resources and ecosystem services is measured and valued

2. Disclose operations where involuntary resettlements took place or are ongoing, and how resettled peoples' livelihoods were affected and restored (e.g., customary rights, economic impact, access to services, cultural impacts)

For additional reporting support, organizations can consult the following resources:

- Global Reporting Initiative, *Land Tenure Rights: The Need for Greater Transparency Among Companies Worldwide*, 2016
- IFC *Good Practice Handbook: Land Acquisition and Resettlement (draft)*
- IFC, *Performance Standard 5, Land Acquisition and Involuntary Resettlement*, 2012
- IFC, *Performance Standard 8: Cultural Heritage*, 2012

Rights of indigenous peoples

Oil, gas, and coal developments can present significant economic opportunities and benefit sharing for indigenous peoples, especially when resource extraction is conducive to the fulfilment of the rights of indigenous peoples, such as when these resources are controlled and developed by indigenous peoples themselves. This enables the exercise of self-determination and proprietary and cultural rights in relation to affected lands and resources. In other cases, indigenous peoples can benefit from oil, gas, and coal developments in the form of jobs, community development projects, or social investments (see also **Local community impacts** and **Economic impacts**).

Conflicts between indigenous peoples and companies can arise when the benefits are or appear to be of less economic value than profits earned by the organization. Benefits gained may also be perceived as insufficient to compensate the negative impacts of the developments on indigenous peoples.

Requirements for oil, gas, and coal activities have historically disrupted indigenous peoples' cultural, spiritual, and economic ties to their lands or natural environments. Sector activities can compromise the rights and well-being of indigenous communities, as well as result in resettlement (see also **Land use and Resettlement**). Displacement can disrupt the connection of indigenous peoples to their lands, threatening their identities, habitats, cultural sites, traditions, and livelihoods. In other cases, land use requirements can restrict access to and threaten subsistence from traditional activities, such as collecting plants, fishing, breeding animals, and hunting. Access to and availability of water, which is a key concern for indigenous communities, can also be compromised.

Disputes and conflicts between indigenous peoples and oil, gas, and coal organizations regularly occur over land ownership and rights. Indigenous peoples can be customary or legal owners of lands where oil, gas, and coal organizations are granted legal ownership by governments. Some national governments might not recognize or enforce indigenous land rights or indigenous peoples' rights to consent.

Documented cases have shown an absence of good faith consultations with indigenous peoples. For example, reports have been filed about undue pressure and harassment to accept proposed extractives projects in communities. Indigenous opposition to extractives projects has led to cases of violence and death.[18]

The sectors' presence in indigenous communities can also impact social cohesion and well-being. Oil and gas projects can have significant in-migration of workers from other areas who are not socially invested in the community and might create social tensions or discrimination. Other potential

[18] See, for example, ILO, Observation (CEACR) - adopted 2018, published 108th ILC session (2019) Indigenous and Tribal Peoples Convention, 1989 (No. 169) - Venezuela, Bolivarian Republic of (Ratification: 2002), 2018; European Parliament, *Indigenous peoples, extractive industries and human rights*, 2014; Tebtebba, IWGIA, and Piplinks, *Pitfalls and pipelines: Indigenous peoples and extractive industries*, 2012; Global Witness, Defenders of the earth, 2016; UN Department of Economic and Social Affairs, RP.8: Report of the international expert group meeting on extractive industries, Indigenous Peoples' rights and corporate social responsibility, 2009; and First Peoples Law Report, n.d.

impacts on indigenous peoples' welfare and safety have been observed in cases including prostitution, bonded labor, violence against women, and increased exposure to communicable illnesses.[19]

Due to indigenous peoples' relationship and sometimes dependence on nature, the sectors' role in causing climate change exacerbates the difficulties described above (see also **Climate change**).

What to report

If an organization in the oil, gas, or coal sector has identified rights of indigenous people as material, the following discloses are appropriate for reporting on the topic:

1. *GRI 103: Management Approach*
2. *GRI 411: Rights of Indigenous Peoples* to disclose incidents of violations involving rights of indigenous peoples
3. Operations where indigenous communities are present or affected by activities and where specific engagement strategies are in place
4. Processes for ensuring Free, Prior and Informed Consent (FPIC), which should precede compensation negotiations including processes for information disclosure, consultation, informed participation, and access to grievance mechanisms
5. Existence of benefit sharing contracts and practice based on those contracts
6. Existence of an indigenous employment strategy or identification and implementation of development benefits (including access to jobs and supply opportunities)

For additional reporting support, organizations can consult the following resources:

- IFC, *Performance Standard 7: Indigenous Peoples*, 2012
- IPIECA, *Indigenous Peoples and the oil and gas industry: context, issues and emerging good practice,* 2012
- IPIECA, Free, prior and informed consent (FPIC) toolbox, 2018
- ICMM, Ind*igenous peoples and mining good practice guide*, 2015

[19] See, for example, UN Permanent Forum on Indigenous Issues, 11th session, Combating violence against indigenous women and girls: article 22 of the United Nations Declaration on the Rights of Indigenous Peoples, 2012; The Firelight Group, Lake Babine Nationa, and Nak'azdii Whut'en, *Indigenous communities and industrial camps: Promoting healthy communities in settings of industrial change*, 2017; Amnesty International, *Out of sight, out of mind: Gender, indigenous rights, and energy development*, 2016; Parkland Institute and Corporate Mapping Project, *Indigenous gendered experiences of work in an oil-dependent, rural Alberta community*, 2019; Oxfam Australia, *Women, Communities and Mining: The Gender Impacts of Mining and the Role of Gender Impact Assessment*, 2009; Indigenous Environmental Network website, *Native Leaders Bring Attention to Impact of Fossil Fuel Industry on Missing and Murdered Indigenous Women and Girls*; Native Women Association of Canada, *Indigenous Gender-based Analysis for Informing the Canadian Minerals and Metals Plan.*

Conflict and security

Many oil, gas, and coal companies conduct operations in countries characterized by political and social instability.[20] These conflicts can be pre-existing within the wider sociopolitical context or be related to a sector's presence, which can trigger, escalate, or sustain local or regional conflicts and insurgencies.[21] As the growing demand for energy will likely draw exploration and production to more conflict-prone regions, the sectors' interaction with conflict and security will likely increase.

Conflicts can arise during all stages of oil, gas, and coal operations. They can involve local communities, national governments, private sector companies, private and national security forces, civil society organizations, political independence movements, warlords, and rebel armies.

Conflict prompted by the presence of oil, gas, and coal operations can be caused by:

- Poor engagement with, marginalization of, or exclusion of **local communities** and **indigenous peoples**;
- Uneven distribution of economic benefits;
- Excessive negative impacts on the economy, society, and the environment;
- Disputes over use of scarce resources including land, forests, and water;
- Mismanagement of funds for individual gains at the expense of local interests;
- Politically fragile operating environments with inadequate institutional or legal frameworks;
- Failure to address natural resources in peace agreements.

Conflict and related human rights abuses can also be linked to corruption (see also **Anti-corruption**). These might occur during a project's subcontracting phase if activities involve companies linked to violent actors, for example, to help secure a license to operate.[22] This can feed into existing conflicts or create new divisions leading to violence.

Oil, gas, and coal organizations often use security personnel to protect their assets or ensure their employees' safety. Security activities can be carried out by an organization's own personnel or through suppliers, government forces, or private military and security companies. Instances have been documented of security personnel taking action against community members, including when they are protesting operations or protecting their land. These actions can violate human rights, such as freedom of association and free speech. Security forces reacting with excessive force can cause an escalation of violence, leading to injuries or deaths.[23]

[20] Institute for Human Rights and Business, *From Red to Green Flags: The Corporate Responsibility to Respect Human Rights in High-Risk Countries*, 2011.

[21] IPIECA, *Guide to Operating in Areas of Conflict*, 2008; UNEP-FI, Call for submissions: the relationship between private military and security companies and extractive industry companies from a human rights perspective in law and practice.

[22] HRW, *The Niger Delta: No Democratic Dividend*, 2002.

[23] Neu, K, and Avant, D, *Overview of the relationship between PMSCs and extractive industry companies from the Private Security Events Database*, 2019.

In conflict areas, security contractors can be connected to military or paramilitary groups. They can fuel conflict by aiding illegal armed groups, including through payment of protection money.

While using security forces is relevant in conflict situations, organizations can also do so during times of relative peace to protect infrastructure. When projects are endorsed by local governments but remain disagreeable to local populations, the use of private military or security forces might increase tensions between local communities and an organization, exacerbating a power imbalance. Using security personnel during a negotiation period might also impose undue pressure on local communities to accept a project, infringing on people's rights to decide on the use of their lands, territories, and resources.

What to report

If an organization in the oil, gas, or coal sector has identified conflict and security as material, the following disclosures are appropriate for reporting on the topic:

1. *GRI 103: Management Approach* including whether the organization has operations in areas of conflict

2. *GRI 410: Security Practices* to disclose security personnel trained in human rights policies or procedures

3. *GRI 412: Human Rights Assessment* to disclose significant investment agreements and contracts that include human rights clauses or that underwent human rights screening

Organizations in these sectors should also disclose:

- Ongoing operational risks and potential upcoming risks related to conflict and security

For additional reporting support, organizations can consult the following resources:

- IOGP, *Conducting security risk assessments (SRA) in dynamic threat environments*, 2016
- IOGP, *Security management system – Processes and concepts in security management*, 2014
- IOGP, *Integrating security in major projects – principles and guidelines*, 2014
- VPSHR, *Voluntary Principles on Security and Human Rights*, 2000

Health and safety

This section describes the oil, gas, and coal sectors' significant impacts on health and safety of people employed by the sector and communities adjacent to its activities. The topics cover impacts across upstream and downstream oil, gas, and coal activities.

Topics in this section include:

Asset integrity and process safety	*This topic deals with asset integrity in reference to prevention and control of events and accidents that could result in, for example, toxic effects, loss of containment, fires, or explosion, that can lead to casualties or serious injuries, property damage, lost production, and environmental impacts.*
Occupational health and safety	*This topic covers impacts on workers' health and safety, including workers who are not employees. Occupational health and safety include prevention of physical and mental harm and promotion of workers' health. Occupational health and safety risks are determined by the likelihood that a work-related hazardous situation or exposure will occur and the severity of injury or ill health it can cause.*

Asset integrity and process safety

Major accidents in the oil, gas, and coal sectors can have catastrophic consequences on the environment, workers, and communities, including:

- Fatalities, serious injuries, occupational diseases, and other health impacts, including toxicological and mental-health effects for communities and workers;
- Socioeconomic impacts on communities, such as economic loss, threats to livelihoods and food safety and security, social disruption, cultural erosion, conflict, and litigation stress;
- Widespread environmental impacts, such as deep-water disasters, water and soil contamination from pipeline ruptures, wildfires, release of hazardous air emissions, and direct mortality of species;
- Contribution to climate change due to methane and other GHG emissions events, such as well blowouts, pipeline pigging, and refinery releases.

Besides preventing major accidents, risks and hazards can be minimized through measures ensuring preparedness and response. A highly effective process safety management system can also limit consequences associated with extreme weather events, the frequency and intensity of which will likely increase due to climate change.

Coal

Coal mining collapses and accidents pose safety risks for workers and communities. Accidents can cause coal fires, releasing fly ash and smoke containing GHG emissions and toxic chemicals that can enter food chains. Various incidents can cause mining accidents, including poisonous gas leaks, dust explosions, stope collapses, fires, mining-induced seismicity, floods, and mechanical errors due to improperly operated or malfunctioning equipment.

Other major mining accidents with wide impacts include failures of tailings management systems, such as dams and pipelines. Failures can be due to poor water management, overtopping, foundation or drainage failure, erosion, and earthquakes. When tailings also contain high levels of bioavailable metals or hazardous chemicals, physical risks are exacerbated.

Oil and gas

Major incidents in oil and gas commonly involve unplanned or uncontrolled releases, including of non-toxic and non-flammable materials (e.g., steam, hot water, nitrogen, compressed CO_2, or compressed air). Other potential incidents include oil or gas well blowout, explosions, fires, unplanned plant upset and shutdown events, surface leaks and seepage from belowground ruptures of unknown origin, and oil sands tailings dam failures.

Oil and gas upstream and downstream activities – including transportation of oil using pipelines, marine vessels, road tankers, and railcars – pose a risk of spills of oil or other materials that can pollute water, contaminate soil, harm species, and affect livelihoods. Pipeline ruptures can occur as a result of corrosion and fatigue, human error, or substandard technology.

Due to system scale and relative lack of regulation, gas leaks from oil and gas equipment and distribution systems are common, poorly monitored, and rarely effectively regulated. Leaks can result from faulty installation and operation of connection points and process equipment or weather's effects on equipment.

What to report

If an organization in the oil, gas, or coal sector has been identified asset integrity and process safety as material, the following disclosures are appropriate for reporting on the topic:

1. *GRI 103: Management approach*, including a description of the organization's emergency preparedness and response programs and plans

2. Disclose total number and volume of spills that reach the environment, including the spill's:
   - Material
   - Location
   - Cause
   - Impacts
   - Volume recovered

3. Disclose number of Tier 1 and Tier 2 process safety events (PSEs) per API RP 754[24] definitions and reported per business activity (e.g., refining, upstream)

For additional reporting support, organizations can consult the following resources:

- OECD, *Guidance on Developing Safety Performance Indicators Related to Chemical Accident Prevention, Preparedness and Response for Industry*, 2008
- IOGP, *Asset Integrity—the Key to Managing Major Incident Risks*, 2018
- IOGP, *Process safety: recommended practice on key performance indicators*, 2018
- UK Health and Safety Executive, Step-By-Step Guide to Developing Process Safety Performance Indicators, 2006
- ICMM, *Health and safety critical control management*, 2015
- ICMM, UNEP, *Good practice in emergency preparedness and response*, 2005

[24] American Petroleum Institute (API), American Petroleum Institute Guide to Reporting Process Safety Events, Version 3.1.

Occupational Health and Safety

Some occupations in the oil, gas, and coal sectors are among the most hazardous in terms of risks to workers' health and exposure to accidents. These risks are associated with key processes in exploration and production phases, including working with heavy machinery and exposition or handling of poisonous, harmful, explosive, or flammable substances – including oil, gas, and coal products themselves.

Besides tangible risks of deadly or highly impairing accidents, the work environment of oil, gas and coal workers presents hazards with the potential to lead to ill-health, including the release of various chemical substances during oil, gas, coal extraction and production. Other hazards present risks for developing or experiencing musculoskeletal injuries, fatigue, physical or psychological stress, communicable diseases, discrimination, and sexual harassment. Some working environment attributes related to the method of exploration, drilling, and extraction can increase the possibility or intensity of work-related incidents.

Reliance on suppliers can also contribute to the extent that healthy and safe working conditions are understood and implemented, especially for workers who are not employees.

Hazards are largely similar across the oil, gas, and coal sectors, but can vary according to method of production. Work-related hazards can be classified as safety and injury hazards or health and illnesses hazards.

Safety and injury hazards

The most commonly reported safety and injury hazards in the oil, gas, and coal sectors relate to:

- Transportation incidents, occurring when workers and equipment are transported to and from wells, offshore rigs, or mining sites. These sometimes require traveling long distances through different types of transportation and hazardous routes by land, air, or sea;
- Fires and explosions incidents, originating from coal dust or flammable gases, such as methane, well gases, and vapors. These are released by oil, gas, or coal production, transportation, and processing;
- Falls, slips, and trips, occurring when, for example, workers must access platforms or equipment located high above the ground or water, or via underground walkways, which can be obstructed, wet, or sloped;
- Electrical hazards associated with high-voltage systems used in exploration and production facilities or equipment;
- Incidents categorized as 'struck-by', 'caught-in', or 'caught-between' that can involve falling equipment or structures, faulty operation of heavy machinery, or malfunctioning of electrical, mechanical, or hydraulic installations, which can result in serious injuries or fatalities.

Health and illnesses hazards

The most commonly reported chemical hazards include:

- Respirable free crystalline silica released during processes that use or produce sand, such as hydraulic fracturing or coal extraction, and can cause silicosis and lung cancer;
- Hydrogen sulfide released by oil and gas wells and coal seams, which can lead to incapacitation or death.
- Coal dusts are also associated with development of diseases of the pulmonary system, including coal workers' pneumoconiosis.

- Harmful or carcinogenic hydrocarbon gases and vapors, to which oil and gas workers are specifically exposed, include propane, butane, pentane, n-hexane, and benzene**.** Exposure to them can occur during the process of manual gauging and fluid sampling on oil and gas production tanks.
- Asphyxiation is also a risk due to the presence of gases, such as methane, carbon monoxide, and nitrogen, in confined spaces.

The most commonly reported physical hazards include:

- Extreme temperatures, for example, when working underground or in polar environments, causing fatigue and body stress reactions, such as hypothermia or hyperthermia;
- Harmful levels of carcinogenic radiation, such as naturally occurring radioactive material (NORM) as a result of industrial processing of oil, gas, and coal;
- Harmful levels of machinery noise or vibration, causing impaired hearing or musculoskeletal injuries;
- Ergonomic-related injury risks associated with heavy items or loads, vibrations from operating tools, and working in confined spaces.

The most commonly reported biological hazards include:

- Communicable diseases, for example, when operating in a region with high prevalence of HIV/AIDS among the local community;
- Outbreaks related to poor hygiene and quality of water or food in isolated environments, such as offshore rigs.

The most commonly reported hazards in terms of work organization and psychosocial well-being include:

- Expatriation, rotational work, long shifts, irregular or odd working hours, and solitary or monotonous work increasing risks of workers' fatigue, strain, or stress, and adversely affecting their physical, psychological, and social health;
- Psychological reactions, including post-traumatic stress disorder (PTSD), which can occur after witnessing major work-related incidents;
- Gender imbalance, which might contribute to experiencing stress, discrimination, or sexual harassment.

What to report

If an organization in the oil, gas, or coal sector has identified occupational health and safety as material, the following disclosures are appropriate for reporting on the topic:

1. *GRI 103: Management Approach*

2. *GRI 403: Occupational Health and Safety* to report on:
   - Occupational health and safety management system
   - Hazard identification, risk assessment, and incident investigation
   - Occupational health services
   - Worker participation, consultation, and communication on occupational health and safety
   - Worker training on occupational health and safety
   - Promotion of worker health
   - Prevention and mitigation of occupational health and safety impacts directly linked by business relationships

- Workers covered by an occupational health and safety management system
- Work-related injuries
- Work-related ill health

For additional reporting support, organizations can consult the following resources:

- IOGP-IPIECA, *Health management in the oil and gas industry*, 2019
- IOGP-IPIECA, *Health Performance Indicators: A guide for the oil and gas industry*, 2007
- ICMM, *Good practice guidance on occupational health risk assessment*, 2016
- ICMM, *Overview of leading indicators for occupational health and safety in mining*, 2012

Employment

This section describes the oil, gas, and coal sectors' significant impacts on employment across upstream and downstream operations.

Topics in this section include:

Employment practices	*This topic refers to an organization's approach to job creation, recruitment, retention, training and development, and the working conditions set for its workers and suppliers.*
Forced labor and modern slavery	*This topic covers concepts such as forced and compulsory labor, debt bondage, forced marriage, slavery and slavery-like practices, and human trafficking. In the context of this Sector Standard, the scope also includes child labor.* *Freedom from forced labor and freedom from child labor are fundamental labor rights.*
Diversity and non-discrimination	*This topic concerns diversity and inclusion and supporting equal opportunity in the workplace, which can contribute to innovation and organizational performance. As opposed to practices that promote diversity, discrimination can be defined as the act and the result of treating people unequally, imposing unequal burdens on or denying benefits from people rather than treating them fairly and on the basis of individual merit.*
Freedom of association and collective bargaining	*This topic refers to freedom of association as the right of employers and workers to form, join, and run their own organizations without prior authorization or interference by the state or any other entity.* *Freedom of association and collective bargaining is a fundamental labor rights.*

Employment practices

The oil, gas, and coal sectors generate many jobs across the value chain. While commonly offering well-paid opportunities for skilled work, these jobs also deal with a number of issues related to employment practices, including:

- Occupational hazards, challenging working conditions, and long working hours;
- Disparities in employment conditions between using local and contract labor;
- High entry barriers for local jobseekers due to the work's specialized nature;
- Concerns over job security;
- Shortfalls in labor-management relations, including lack of collective agreements and disputes.

Workers in these sectors often work in isolated environments, where they are subjected to physical risks and stress. Oil, gas, and coal jobs' shift patterns – to ensure around-the-clock operations – sometimes require overtime employment. Night shifts and overworking cause high fatigue levels and can augment occupational and process-safety related risks (see also **Occupational health and safety** and **Asset integrity**).

A number of activities in these sectors are commonly outsourced to third parties under varying contractual arrangements. This is prevalent during peak periods, such as construction or maintenance works, or for specific activities, such as drilling, catering, transportation, and security. Using subcontractors and third-party employment agencies might allow companies to reduce their labor costs and avoid legal obligations to employ a worker following a period of employment as a contract worker and bypass collective agreements in place for workforce in direct employment.

Contract workers can face less favorable employment conditions than employees, receive lower compensation, and have less job security. They can also lack social protection, access to grievance mechanisms, and avenues for collective bargaining. In addition, suppliers and subcontractors can have lower standards when it comes to working conditions and, as a consequence, expose organizations in the oil, gas, and coal sectors to human and labor rights violations (see also **Forced labor and modern slavery**).

A lack of relevant skills, knowledge, or accessible training programs can restrain the local workforce from accessing job opportunities created by the sectors. Expatriate and local contracts can also have considerable disparities in employment terms, including unequal remuneration and benefits offered only to expatriates – defined as temporary workers who are usually brought in by employers – such as bonuses, housing allowances, and private insurance plans.

Job security is another common concern in these sectors. For example, **closure and decommissioning** phases can occur suddenly and typically result in job losses. Planning for the phase of worker training and transfer scheme can significantly reduce unemployment and the resulting social impact. Employment can also depend on commodity prices. For example, low oil prices can lead companies to downsize their workforce. Subsequent inadequate staffing can pose further safety risks and increase pressure for working overtime.

Job security is further impacted by technological developments and climate change. Automation and changing operating models, such as transitioning to renewable energy, can pose additional challenges. Without skills-development measures to improve and expedite employability, many workers might end up with inadequate skillsets and face unemployment.

Labor-management disputes can occur from failing to address employment practices issues, for example:

- Inadequate compensation and social protection;
- Improvement of working conditions, including workplace safety;
- Unsafe staffing levels and maintenance issues;
- Managing significant operational changes, including restructuring, mergers, and site closures causing job losses;
- Unequal treatment between contract and local workers, including limited scope of collective bargaining agreements that expose workers contracted through third parties to higher vulnerabilities (see also **Freedom of association and collective bargaining**);
- Replacing experienced employees with contractors.

Labor-management disputes can also threaten the continuity of oil, gas, and coal operations and worker safety.

What to report

If an organization in the oil, gas, or coal sector has identified employment practices as material, the following disclosures are appropriate for reporting on the topic:

1. *GRI 103: Management Approach*

2. *GRI 401: Employment* to disclose:
   - New employee hires and employee turnover;
   - Benefits provided to full-time employees that are not provided to temporary or part-time employees;
   - Parental leave

3. *GRI 402: Labor/Management Relations* to disclose minimum notice periods and consultation regarding operational changes

4. *GRI 404: Training and Education* to disclose:
   - Average hours of training per year per employee;
   - Programs for upgrading employee skills as well as for transition, worker transfer, and redeployment assistance

5. *GRI 414: Supplier Social Assessment* to disclose:
   - New suppliers that were screened using social criteria
   - Negative social impacts in the supply chain and actions taken

Forced labor and modern slavery

Oil, gas, and coal organizations interact with a high number of suppliers and third-party contractors, including in countries characterized as having low enforcement of labor rights. Organizations can be at risk of using suppliers and sub-contractors who lack appropriate oversight of labor rights or do not comply with relevant codes of conduct, thus making oil, gas, and coal supply chains vulnerable to human rights abuses, such as child labor and forced labor. Joint ventures and other types of business partnerships, including state-owned enterprises in countries where violation of international rights standards occur, can also be at risk.

Migrant workers are particularly vulnerable to forced labor and exploitation by recruitment agencies. They might, for example, overcharge workers for visas and flights or demand recruitment costs be paid by employees rather than employers.

Cases of forced labor have been documented in shipping and construction activities in the oil, gas, and coal supply chains. Other areas of risk to exposure to forced labor and other forms of modern slavery include cleaning and catering services, onshore transportation, supply base activities, waste management, maintenance, and modifications services.

Coal is a commodity identified as being produced with the use of forced labor and child labor in some countries.[25] In mines, children face multiple hazards, such as accidents and injuries from falling rocks, explosions, fires, and the collapse of mine walls.

Oil and gas offshore workers can face risks of forced labor due to the isolation of extraction sites. This makes reinforcing measures against forced labor more challenging. Shipping is also an activity associated with risk. Traded globally, products can be transported via ships on short-term charter and therefore registered in a country other than that of the beneficial owner, thus obscuring accountability through layers of different management and crewing companies.

Risks of child labor in oil and gas sectors mainly occur through the supply chain, such as during the construction of project facilities or operation of oil and gas pipelines.[26]

[25] Global Slavery Index website, *G20 Analysis*; U.S. Department of Labor, *A 2018 List of Goods Produced by Child Labor or Forced Labor*, 2018; ILO, *Global Estimates of Child Labour – Results and Trends 2012-2016*, 2017..

[26] See, for example, EarthRights International, *TOTAL Impact: The Human Rights, Environmental, and Financial Impacts of Total and Chevron's Yadana Gas Project in Military-Ruled Burma (Myanmar)*, 2009; International Federation for Human Rights (FIDH), *Info Birmanie, La Ligue Des Droits de l'Homme et La FIDH Dénoncent l'accord Intervenu Entre Total et Sherpa*, 2005.

What to report

If an organization in the oil, gas, or coal sector has identified forced labor and modern slavery as material, the following disclosures are appropriate for reporting on the topic:

1. *GRI 103: Management Approach*
2. *GRI 408: Child labor* to disclose operations and suppliers at significant risk for incidents of child labor
3. *GRI 409: Forced or Compulsory Labor* to disclose operations and suppliers at significant risk for incidents of forced or compulsory labor
4. *GRI 412: Human Rights Assessment* to disclose operations that have been subject to human rights reviews or impact assessments
5. *GRI 414: Supplier Social Assessment* to disclose new suppliers that were screened using social criteria

Diversity and non-discrimination

The technical nature of the oil, gas, and coal sectors and their necessarily skilled workforce set a relatively high entry barrier. Discrimination in these sectors has been documented on the basis of gender, race, age, ethnicity, nationality, religion, minority status, culture, and worker status.[27] Such discrimination can further hinder access to jobs and career development as well as cause pay inequality and other unequal treatment.

Achieving more diversity and providing equal opportunity are also challenges for these sectors. With a significant gender imbalance in oil, gas, and coal jobs, women represent less than an estimated quarter of the total workforce. In many countries, they represent as little as 5 to 10%, compared to women's overall participation in the workforce, which is around 40%.

Education is one of the root causes for the gender imbalance. Fewer women graduate with degrees in science, technology, engineering, or mathematics, which are highly relevant disciplines for the sectors.

Other impediments to achieving diversity can include specified gender preferences for certain roles. Some resource-rich countries also have laws that prevent women from working in hazardous or arduous occupations, including in the oil, gas, and coal sectors. Social or cultural customs and beliefs can also limit women's access to the sectors.

The oil, gas, and coal sectors have also been linked to domestic and gender-based violence, both at sites of operation and within local communities near operations.[28] Male-dominated cultures, imbalanced gender distribution, and gendered organizational norms have been identified as factors conducive to sexual harassment in such contexts.

In some major oil- and gas-producing countries, minority groups have reported workplace discrimination, facing disadvantages in comparison to the majority group.[29] Jobseekers from local communities are sometimes excluded from the hiring process because of a recruitment system bias that favors a dominant ethnic group. Compared to expatriate workers – defined as temporary workers who are usually brought in by employers – the local workforce can receive significantly lower pay for equal work.

[27] See, for example: Business & Human Rights Resource Centre, *Azerbaijan: Abuses by oil companies include workplace discrimination, illegal termination of contracts, health & safety violations, sexual harassment, environmental pollution, say NGO reports; includes company comments*; Coal Age, *Massey Settles Class Action Suit*, 2009; Digby Brown Solicitors website, *Oil and Gas contract restrictions removed after discrimination employment advice*; Iraqi Center for Policy Analysis & Research, *Institutional Discrimination in Iraq's Oil and Gas Sector*; Parkland Institute blog, *How Gender and Race Shape Experiences of Work in Alberta's Oil Industry*; U.S. Equal Employment Opportunity Commission, *EEOC Sues Murex Petroleum Corp. For Race Discrimination*, 2019.

[28] International Finance Corporation, *Unlocking Opportunities for Women and Business – A Toolkit of Actions and Strategies for Oil, Gas, and Mining Companies*, 2018.

[29] Mining Industry Human Resources Council Canada website, *Strengthening Mining's talent alloy: Exploring Diversity and Inclusion*, 2016.

Oil, gas, and coal organizations widely use contract labor with different terms of employment, which can pose risks of discrimination. For example, on-site contractors might be subject to poorer conditions, receive less training than company employees, and lack access to grievance mechanisms.

Private security providers used by oil, gas, and coal organizations can be hired from the dominant ethnic group, with a subsequent rise in harassment and assaults against vulnerable or marginalized individuals from minority groups (see also **Security Practices**).

What to report

If an organization in the oil, gas, or coal sector has identified diversity and non-discrimination as material, the following disclosures are appropriate for reporting on the topic:

1. *GRI 103: Management Approach*

2. *GRI 202: Market Presence* to disclose:
   - Ratios of standard entry-level wage by gender compared to local minimum wage
   - Proportion of senior management hired from the local community

3. *GRI 401: Employment* to disclose total number and rate of new employee hires during the reporting period, by age group, gender, and region

4. *GRI 404: Training and Education* to report average hours of training per year per employee by gender and employment category

5. *GRI 405: Diversity and Equal Opportunity* to disclose:
   - Diversity of governance bodies and employees
   - Ratio of basic salary and remuneration of women to that of men

6. *GRI 406: Non-discrimination* to disclose incidents of discrimination and corrective actions taken

Freedom of association and collective bargaining

Employees of oil, gas, and coal organizations can be represented by trade unions and covered by collective agreements, which are negotiated by national, regional, or global sectoral federations and associations. The right to organize and take collective action is critical for reducing social inequality and improving labor standards in the sectors, including occupational safety and health, working conditions, wages, and job security.

Some oil, gas, and coal reserves are located in countries where the right to freedom of association and collective bargaining are restricted. Workers in these locations face risks when seeking to join trade unions and engage in collective bargaining. The ability to effectively represent members in countries where unions are legal can still be restricted, and workers who join unions can face intimidation or unfair treatment.

Documented cases of interference with freedom of association and collective bargaining include:

- Refusal to bargain in good faith with workers' chosen unions;
- Not adhering to agreed consultation processes in collective agreements;
- Unilateral cancellation of collective bargaining agreements;
- Unfair dismissal of trade unions' members and leaders;
- Preventing unions from accessing workplaces to assist workers, especially in remote areas or offshore;
- Invasion of privacy;
- Confiscation and detention of managers and employees;
- Threats, harassment, and violence;
- Forced disappearance and loss of life.

Contract workers, which are widely used in these sectors, are often excluded from the scope of collective bargaining agreements. They can have less bargaining power, get lower pay and benefits, face weaker job security, and be less able to protect themselves from unsafe situations at work (see also **Employment practices**).

What to report

If an organization in the oil, gas, or coal sector has identified freedom of association and collective bargaining as material, the following disclosures are appropriate for reporting on the topic:

1. *GRI 103: Management Approach*

2. *GRI 407: Freedom of Association and Collective Bargaining* to disclose operations and suppliers in which the right to freedom of association and collective bargaining might be at risk

Transparency and governance

This section describes the oil, gas, and coal sectors' significant impacts related to economic transparency and governance across upstream and downstream operations.

Topics in this section include:

Anti-corruption	*This topic refers to corrupt practices such as bribery, facilitation payments, fraud, extortion, collusion, and money laundering. It can also include self-dealing, influence peddling, and conflicts of interest.*
Payments to governments	*This topic refers to payments to governments including paid taxes, production rights, royalties, signature, discovery, and production bonuses, commodity trading activities, and other payments. Lack of transparency about such payments can contribute to inefficient management of public funds, illicit financial flows, and corruption.*
Public policy and lobbying	*This topic refers to private interests that seek to influence development of public policy through various activities. These can include lobbying and making financial or in-kind contributions to political parties, politicians, or causes directly or through an intermediary organization.*
Anti-competitive behavior	*This topic refers to anti-competitive and anti-trust practices that can result in collusion with potential competitors, with the purpose of limiting the effects of market competition.*

Anti-corruption

Corruption in the oil, gas, and coal sectors has been identified as a major impediment to sustainable development. It is linked to a number of negative impacts, such as poverty in transitioning economies, misallocation of investments, damage to the environment, abuse of human rights, abuse of democracy, undermining the rule of law, political instability, insecurity, and conflict. Documented cases of corruption within the oil, gas, and coal sectors include bribery of domestic and foreign officials, misappropriation and diversion of public funds, abuse of office, trading in influence, favoritism, extortion, and manipulation of policies and practices for personal and political benefit to the detriment of public interest.[30]

Corruption can lead to diversion of revenues from public needs, such as infrastructure or basic services. This has significant impact particularly in countries with high levels of poverty. Corruption can also increase inequality and lead to conflict over oil, gas, and coal resources.

Factors that make these sectors prone to the risks of corruption include:

- Reserves becoming scarcer in established markets and companies increasingly operating in emerging countries with weaker governance and transparency;
- Centralized government ownership and control over natural resources involving frequent interactions of companies with politically exposed persons for licenses and regulation;
- Significant use of third-party intermediaries for services and operations;
- Sectors' international reach and complex transactions and flows of money and other resources that can increase opacity and lead to corruption.

Examples of corruption in the oil, gas, and coal sectors include:

Bidding, licenses, and license transfers

Licenses for oil, gas, and coal exploration rights are often awarded through a bidding process. Corruption in the bidding process can take the form of bypassing bidding rules, unfair evaluation of bidders, and abnormal bidding terms that predefine winners. These practices can lead to awarding less qualified organizations with licenses or contracts. Bribes can also be paid to secure contracts at inflated prices.

Contracts that govern the exploitation of oil, gas, and coal resources are drawn between organizations and governments on behalf of citizens or communities. Negotiations usually take place behind closed doors without citizen oversight.[31] Because extraction projects have long time horizons, fair terms of sharing risk and rewards are particularly important. Disclosure of contracts

[30] See, for example OECD, *Corruption in the Extractive Value Chain*, 2016.
[31] Anti-Corruption Resource Center, Transparency International, *Local Content Policies and Corruption in the Oil and Gas Industry*, 2014.

helps communities hold governments and companies accountable for their negotiated commitments and obligations.

Land access

Insecure land rights can lead to conflicts between landowners or users and organizations applying for licenses. Oil, gas, and coal organizations can use corrupt practices to inappropriately induce authorities managing land registers (see also **Land use and resettlement**).

Joint ventures and shell companies

To apply for an operating license, international organizations might be required to form a joint venture with a local partner or a company of which indigenous peoples or host-country nationals have a majority ownership. Partners are often state-owned or otherwise connected to public officials, posing risks of conflicts of interest and favoritism. To satisfy bidding requirements, organizations can use local companies as shell companies in the bidding process, even though they lack capacity or expertise to deliver the project.

Social and environmental impact assessment and community consultation

The process for undertaking environmental and social impact assessments to gain authorization presents corruption risks, especially when resources are in sensitive areas. For example, when influenced by corrupt practices, environmental and social approval might be granted without an adequate evaluation based on established criteria or a meaningful consultation with local communities. Other examples include removal of scientific experts from decision-making processes for environmental assessments, limitation of terms of reference for decision-making, consultation processes disconnected from outcomes, and biased collection and interpretation of data.

Procurement of goods and services

Corruption risks can arise in procurement of goods and services, such as infrastructure, consulting, contracting, and subcontracting. Large contracts for development projects can incentivize suppliers to pay bribes and kickbacks in order to secure contracts, cover up fraud, waive or ignore regulations, or overlook poor-quality goods and services. Low-quality goods and services, in turn, can have negative environmental and social impacts on local communities.

Revenue collection

The process of collecting revenue from oil, gas, and coal operations can be exposed to corruption through government sales and purchases of these commodities. Though paid bribes or because of their political status, companies in these sectors can also gain special treatment in tax assessment and collection and other government levies, such as royalties and import duties. Bribes can also be used to gain preferential terms that deny the state revenue or a diversion of payments to private beneficiaries instead of the state.

Political corruption

Close relationships between oil, gas, and coal organizations and government officials can expose the sectors to political corruption. With a view to blocking unfavorable legislation, corrupt practices can be used to influence environmental policies and pollution taxes (see also **Public policy and lobbying**).

BENEFICIAL OWNERSHIP

Who benefits from financial transactions in the oil, gas, and coal sectors can be difficult to determine when organizations have opaque ownership structures. Insufficient disclosure about beneficial ownership has been identified as a significant problem, enabling tax evasion and avoidance, money laundering, conflicts of interest, and corruption.

What to report

If an organization in the oil, gas, or coal sector has identified antic-corruption as material, the following disclosures are appropriate for reporting on these topic:

1. *GRI 103: Management Approach*

2. *GRI 205: Anti-corruption* to disclose:
   - Operations assessed for risks related to corruption
   - Communication and training about anti-corruption policies and procedures
   - Confirmed incidents of corruption and actions taken

3. EITI Requirement 2.4 to disclose any contracts and licenses that provide the terms attached to the exploitation of oil, gas and minerals

4. EITI Requirement 2.5 to report the beneficial owners of corporate entities that apply for or hold a participating interest in an exploration or production oil, gas, or mining license or contract

For additional reporting support, organizations can consult the following resource:

- EITI, The EITI Standard 2019

Payments to governments

Oil, gas, and coal organizations deal with a high number of complex financial transactions subject to a variety of taxes and other payments to governments. However, information on these payment amounts, categories, and beneficiaries might be unavailable to parties outside the organization. This can impede detection of misuse or misappropriation of funds and cases of corruption. Lack of transparency can also prevent civil society from monitoring the sectors' activities, including infrastructure and other community development spending, and decrease economic stability. Citizens can therefore be unaware of the benefits that a project brings to the country via tax revenues, which could cause social unrest.

Payment transparency helps companies reflect citizens' contribution to the host country, allows informed public debate and decision-making, and helps governments strengthen revenue collection and management.

When disclosing information on payments to governments, oil, gas, and coal companies often aggregate payments at a global level. However, aggregated figures provide little to no insight into payments made in each country or per project, which might be significant. Reporting project-level payments enables governments to compare actual payments made to those stipulated in fiscal, legal, and contractual terms and to assess projects' actual financial contributions to communities. Transparency about project license fees and other factors that a project depends on removes asymmetry of information in the bidding process and allows governments to assess consequences of different financial models proposed by competing companies.

The taxes that oil, gas, and coal organizations pay represent significant revenues for governments. When several company entities across locations belong to the same group, they can make inter-company payments, affecting tax calculation and moving profits to locations with more advantageous taxation. National tax authorities might lack access to specific information on the group to determine where profits are to be reported. In addition, lack of transparent tax data makes it difficult for governments to assess oil, gas, and coal transfer pricing transactions and audits.

Tax non-compliance in the form of tax evasion and tax avoidance can direct significant funds away from governments. This can be particularly damaging for developing economies incapable of pursuing enforcement of tax legislation.

STATE-OWNED ENTERPRISES

State-owned enterprises (SOEs) are wholly or majority government-owned organizations that engage in extractive activities on behalf of the government. They often receive subsidies and preferential treatment.

SOEs usually sell shares of the produced resource to commodity trading companies. This first sale represents an important revenue stream for countries, and can involve a high volume of financial transactions. However, data on these transactions is often scarce or inaccessible. The first trade can be subject to trade mispricing in the form of under-invoicing exports or over-invoicing imports to obtain a financial gain. Other risks include selection of buyers and allocation of sales contracts, which can involve bribery and conflicts of interest, as well as transfer of revenues to the state treasury, potentially causing misallocation of revenues or generating public mistrust of revenue management (see also **Anti-corruption**).

Transparency in SOEs' operations and objectives is crucial for monitoring their performance and maximizing their economic and societal contributions.

What to report

If an organization in the oil, gas, or coal sector has identified payments to governments as material, the following disclosures are appropriate for reporting on the topic:

1. *GRI 103: Management Approach*

2. *GRI 201: Economic Performance* to disclose:
   - Direct economic value generated and distributed
   - Financial assistance received from government

3. *GRI 207: Tax* to disclose:
   - Approach to tax
   - Tax governance, control, and risk management
   - Stakeholder engagement and management of concerns related to tax
   - Country-by-country payments

4. Payments to governments in revenue streams listed in EITI Requirement 4.1 and disaggregated by project and revenue stream as per EITI Requirement 4.7

5. EITI Requirement 2.6 to disclose the level of state ownership in the company and the financial relationship between the government and the SOE

6. EITI Requirement 4.2 to disclose the volumes of oil, gas, and coal purchased from the state or third parties appointed by the state to sell on their behalf, the payments made for the purchase, and the recipient of the payment

For additional reporting support, organizations can consult the following resources:

- EITI: The EITI Standard 2019
- OECD, *Upstream Oil, Gas, and Mining State-Owned Enterprises, Governance Challenges and the Role of International Reporting Standards in Improving Performance*, 2018

Public policy and lobbying

The oil, gas, and coal sectors are considered to have significant influence on government policies. Lobbying can improve government decisions by providing insights and data to governments. At the same time, it can result in undue influence, unfair competition, and regulatory capture – all of which can undermine public interest and effective public policies.

Oil, gas, and coal are among the largest sectors in terms of lobbying expenditure. Cases document how these sectors have habitually donated to political parties whose policies favor corporate agendas and in order to gain special access to politicians.

These sectors' activities also generate large revenues to their host-country governments. Compared to other stakeholders, they might therefore be given better access and representation in meetings with government representatives, leading to undue influence over public policy discussions.

Lobbying activities can result in significant, long-lasting impacts on the environment, local communities, and the economy at large. These activities can involve:

- Hindering environmental policies, including air and water quality regulations and biodiversity conservation;
- Blocking or amending legislation that limits environmental assessment of projects or fair participation of all stakeholders in the licensing process;
- Presenting data that undermines scientific consensus;
- Overturning restrictions on resource development or acquiring permits for pipelines;
- Preventing meaningful carbon pricing, carbon budgets, or other actions to reduce GHG emissions, which might leave oil, gas, and coal assets stranded;
- Lowering corporate taxes and resources royalties.

In particular, these sectors have represented a strong force against ambitious climate policies through their lobbying activities. These sometimes contradict with their publicly stated corporate strategies to support policies addressing the climate crisis.[32]

Lobbying can also be used to gain or retain government subsidies. Coal and oil, in particular, are heavily subsidized. This results in commodity prices that do not reflect products' full environmental costs. Subsidies for oil, gas, and coal sectors can inhibit sustainable development in numerous ways, including reducing or inefficiently allocating available national resources; increasing dependence on fossil fuels; and discouraging investment in renewable energy and energy efficiency, hindering the **transition to low-carbon economies**.

[32] InfluenceMap, Climate Lobbying, 2018; *Trade association and climate: shareholders make themselves heard*, 2018.

What to report

If an organization in the oil, gas, or coal sector has identified has identified public policy and lobbying as material, the following disclosures are appropriate for reporting on the topic:

1. *GRI 103: Management Approach*, including approach to public advocacy on climate change

2. *GRI 415: Public Policy* to report management approach disclosures:
   - Significant issues that are the focus of the organization's participation in public policy development and lobbying
   - Organization's stance on these issues and any differences between its lobbying positions and any stated policies, goals, or other public positions, including on climate change

3. *GRI 415: Public Policy* to report political contributions

4. Memberships or contributions to organizations that participate in public policy advocacy on climate change

5. Any differences between the organization's stated policies, goals, or other public positions on climate change and the positions of organizations listed above, including those listed in GRI General Disclosure 102-13

Anti-competitive behavior

Violations of anti-trust and monopoly legislation in the oil, gas, and coal sectors can affect pricing of commodities and other market conditions. Fair competition provides for adequate access to oil, gas, and coal resources and helps avoid excessive price variations. Detecting anti-competitive behavior without evidence of an explicit agreement can be difficult. In some markets, anti-competition legislation is less mature and anti-competitive practices are not well regulated.

Significant investment requirements, the sectors' technical nature, and high risks have kept entry barriers high. A number of multinational corporations has dominated the global market. Oil, gas, and coal organizations can abuse their position as producers of an essential commodity by imposing unfair terms and charges. This could, for example, leave customers unable to switch to an alternative supplier.

Anti-competitive practices can affect output volume, with restrictive supply contracts and imposed penalties threatening supply security. In commodity markets, oil, gas, and coal traders can also negatively affect competition through their influence over sector benchmarking or index prices.

Mergers in these sectors can diminish direct competition by, for example, creating monopolies over transmission and supply to consumers. High vertical integration of oil, gas, and coal producers also creates risks of discrimination against other players in the market.

Anti-competitive behavior can occur throughout the value chain. Bid-rigging cartels can hinder a fair public tender process by creating advantages for less competent players, which can result in corruption.

Coal

Coal is widely used to generate power in many developing countries. Competition in this sector can also affect other sectors that use coal, including utilities, steel, cement, and fertilizer production. Examples of anti-competitive behavior in the coal industry include preferential treatment of buyers resulting in low-quality coal supplies, selective loading charges, and unilateral contract terminations.

Oil and gas

Anti-competitive behavior of oil and gas organizations can lead to increased prices of crude oil and gas. This can burden and damage different sectors of the economy. Oil, gas, and coal organizations can also limit their competitors' access to transportation networks and shipping lines or deliberately create other impracticalities to limit competition. Anti-competitive tactics in downstream operations can increase the price of oil and be particularly detrimental for individual consumers.

National state-owned oil and gas monopolies and international cartels can get exemptions from antitrust laws or regulatory regimes. State-owned enterprises (SOEs) control two thirds of the oil market, thus being able to set prices and control output and imports. However, abuse of this position can be as harmful as competition restrictions by private organizations.

What to report

If an organization in the oil, gas, or coal sector has identified anti-competitive behavior as material, the following disclosures are appropriate for reporting on the topic:

1. *GRI 103: Management Approach*

2. *GRI 206: Anti-competitive Behavior* to report legal actions for anti-competitive behavior, anti-trust, and monopoly practices

Further resources

Governance resources

- EITI, *The EITI Standard 2019*

Management of environmental and social impacts

International Finance Corporation (IFC) Performance Standards on Environmental and Social Sustainability:

- Coal processing
- Liquefied Natural Gas (LNG) Facilities
- Mining
- Offshore Oil and Gas Development
- Onshore Oil and Gas Development
- Petroleum Refining

Stakeholder engagement

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

Sustainability reporting guidance

- IPIECA, API, IOGP, *Sustainability reporting guidance for the oil and gas industry*, 2020 update [TBC]

UN Sustainable Development Goals

- IFC, IPIECA, United Nations Development Programme (UNDP), *Mapping the Oil and Gas Sector to the UN Sustainable Development Goals: An Atlas*, 2017
- Columbia Center on Sustainable Investment, Sustainable Development Solutions Network, UNDP, World Economic Forum, *Mapping Mining to the Sustainable Development Goals: An Atlas*, 2016

Key terms (under development)

[These terms are under development but are expected to reflect the following contents]:

anthropogenic CO_2 emissions

human activity-caused releases of greenhouse gases (GHGs), aerosols, and atmospheric compounds that are known as precursors of GHG, which affect GHG or aerosol concentration production or destruction rates

Note 1: Human-caused, or anthropogenic, activities include burning fossil fuels, deforestation, land use and land-use changes, livestock production, fertilization, waste management, and industrial processes.

Note: This definition is based on Intergovernmental Panel on Climate Change, 'Annex I: Glossary', *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty,* 2019. https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Summary_Volume_Low_Res.pdf

asset integrity and process safety

an entity's ability to perform its function effectively and efficiently while safeguarding life and the environment; a disciplined framework for systematically and safely containing hazardous materials or energy by applying sound design, construction, and operating principles.

Note 1: This definition is based on Health and Safety Executive (HSE), *Hazardous Installations Directorate Offshore Division*, Key Programme 3: Asset Integrity, 2007. https://www.hse.gov.uk/offshore/kp3handbook.pdf.

Note 2: This definition is based on IPIECA and International Association of Oil and Gas Producers (IOGP), Process safety – Recommended practice on Key Performance Indicators, 2018. https://www.iogp.org/bookstore/checkout/order-received/113880/?key=wc_order_iCl59yFYt5dHZ

beneficial ownership

natural person(s) who directly or indirectly have ultimate ownership or control of an organization

Note 1: The definition should be agreed upon by a relevant multi-stakeholder group and be aligned with international norms and relevant national laws, specifying:

a) ownership threshold(s);
b) reporting obligations for politically exposed persons;
c) in the case of a publicly listed organization, including any wholly owned subsidiaries, the name of the stock exchange on which it is listed and a link to stock exchange filings;
d) in the case of joint ventures, disclosure of beneficial owner(s) by each entity within the venture unless it is publicly listed or is a wholly owned subsidiary of a publicly listed company.

Note 2: This definition is based on Extractive Industries Transparency Initiative (EITI), *EITI Standard 2019*, requirement 2.5. https://eiti.org/document/eiti-standard-2019#r2-5.

climate-resilient pathway

a development trajectory combining adaptation and mitigation with effective institutions to realize sustainable development through actions including:

- reducing human-induced climate change and its impact;
- ensuring that effective institutions, strategies, and choices for risk management be identified, implemented, and sustained.

Note: This definition is based on IPCC, 'Climate-Resilient Pathways: Adaptation, Mitigation, and Sustainable Development', *Climate Change 2014: Impacts, Adaptation, and Vulnerability*, p. 1106, 2014. https://www.ipcc.ch/site/assets/uploads/2018/02/WGIIAR5-Chap20_FINAL.pdf.

closure and decommissioning

the end of commercial resource extraction and the assessment of structures at the end of their life cycle to determine options for dismantling, physical removal, disposal, or modification, with the purpose of rehabilitating a site to meets agreed objectives

Note: This definition is based on World Bank, *Towards Sustainable Decommissioning and Closure of Oil Fields and Mines: A Toolkit to Assist Government Agencies*, version 3.0, 2010. http://documents.worldbank.org/curated/en/417371468149083097/text/827200WP0decom00Box379864B00PUBLIC0.txt.

contract

a concession, production-sharing agreement, or other agreement granted or entered into by the government that provides the terms attached to the exploitation of resources; the full text of any annex, addendum, or rider establishing details relevant to the exploitation rights described in government policy, legislation, or, absent that, an explanation concerning disclosure of contracts and licenses or the execution thereof; or the full text of any alteration or amendment to the documents described in an overview of publically available contracts and licenses

Note: This definition is based on Extractive Industries Transparency Initiative (EITI), *EITI Standard 2019*, requirement 2.4 (d), (e). 2019, https://eiti.org/document/eiti-standard-2019#r2-4.

license

any lease, title, permit, contract, or concession by which the government confers on a company(ies) or individual(s) rights to explore or exploit resources

Note: This definition is based on Extractive Industries Transparency Initiative (EITI), *EITI Standard 2019*, requirement 2.4 (d), (e). 2019, https://eiti.org/document/eiti-standard-2019#r2-4.

fly-in fly-out

a scheduling scheme, common in mining, that employs people in geographically remote areas by transporting them to and from a worksite rather than permanently relocating them

free, prior, and informed consent (FPIC)

a right recognized in the United Nations Declaration on the Rights of Indigenous Peoples that allows indigenous peoples to give or withhold consent to a project that may affect them or their territories as well as to negotiate project conditions[1]

- Free implies no coercion, intimidation, or manipulation.
- Prior implies consent sought sufficiently ahead of any activity authorization or commencement, with respect for time requirements of indigenous consultation and consensus processes.
- Informed implies a range of information is provided, including any proposed project's or activity's nature, size, pace, reversibility, scope, purpose, duration, locality, and areas affected as well as a preliminary assessment of likely economic, social, cultural, and environmental impacts and the personnel likely entailed in execution and procedures.[2]

Note 1: This definition is based on Food and Agriculture Organization of the United Nations (FAO), *Free Prior and Informed Consent Manual*, 2016. http://www.fao.org/3/a-i6190e.pdf.

Note 2: These terms are based on United Nations Human Rights Office of the High Commissioner for Human Rights (OHCHR), Free, Prior and Informed Consent of Indigenous Peoples, 2013. https://www.ohchr.org/Documents/Issues/ipeoples/freepriorandinformedconsent.pdf.

major accident

a hazardous incident that results in multiple fatalities or severe injuries; extensive damage to structure, installation, or plant; or large-scale impact on the environment[1]

In relation to an offshore oil and gas operation installation or connected infrastructure, the incident can involve the following: [2]

- an explosion, fire, loss of well control, or release of oil, gas, or dangerous substances;
- serious damage to installation or connected infrastructure;
- fatality or serious injury to persons on the offshore installation where a source of danger occurs or in an offshore oil and gas operation;
- any major environmental incident resulting from the above incidents.

Note 1: This definition is based on ISO 17776:2016.

Note 2: This definition is based on *Directive 2013/30/EU of the European Parliament and of the Council of 12 June 2013 on safety of offshore oil and gas operations and amending Directive 2004/35/EC*.

mitigation hierarchy

a sequence of actions providing a best-practice approach for the sustainable management of living, natural resources in order to:

- avoid impacts on biodiversity and ecosystem services;

- where avoidance is not possible, minimize;
- when impacts occur, rehabilitate or restore;
- and where significant residual impacts remain, offset.

Note: This definition is based on Cross Sector Biodiversity Initiative (CSBI), *A cross sector guide for implementing the Mitigation Hierarchy*, 2015. http://www.csbi.org.uk/wp-content/uploads/2017/10/Mitigation-Hierarchy-Executive-summary-and-Overview.pdf.

modern slavery

a set of specific legal concepts including forced labor, debt bondage, forced marriage, other slavery and slavery-like practices, and human trafficking

local content

the share of employment or sales to a sector supplied from the same geographic market throughout the supply chain, which has wider effects on the economy[1]

Note 1: This definition is based on the World Bank, *Local Content Policies in the Oil and Gas Sector*, 2013.

Note 2: The Organisation for Economic Co-operation and Development (OECD) refers to local content related to in-country shared value creation found in sector-specific demands for workforces, goods, and services. Extractives sector projects can be leveraged to develop multi-purpose, multi-user infrastructure, enabling systemic linkages and economic diversification as well as affordable power and water access. These measures can positively impact job creation, skills development, and poverty reduction. This definition is based on OECD, *Collaborative Strategies for In-Country Shared Value Creation: Framework for Extractive Projects*, 2016.

politically exposed persons

an individual entrusted with a prominent public function

Note: This definition is based on Organisation for Economic Co-operation and Development (OECD)/Financial Action Task Force (FATF), *FATF Guidance, Politically exposed persons: recommendations 12 and 22*, 2013. *https://www.fatf-gafi.org/media/fatf/documents/recommendations/Guidance-PEP-Rec12-22.pdf*.

project

operational activities governed by a single contract, license, lease, concession, or similar legal agreement that forms the basis for payment liabilities

Note 1: If multiple such agreements are substantially interconnected, the multi-stakeholder group must identify and document which instances are considered a single project. Substantially interconnected agreements are a set of operationally and geographically integrated contracts, licenses, leases or concessions, or related agreements with substantially similar terms signed with a

government, giving rise to payment liabilities and governable by a single contract, joint venture, production-sharing agreement, or other overarching legal agreement.

Note 2: This definition is based on Extractive Industries Transparency Initiative (EITI), *EITI Standard 2019*. 2019. https://eiti.org/document/eiti-standard-2019.

Tier 1 and Tier 2 process safety event (PSE)

a loss of primary containment (LOPC) with the greatest consequence as defined by API Recommended Practice 754 Process Safety Indicators for the Refining and Petrochemical Industries.

Note 1: A Tier 1 PSE is an unplanned or uncontrolled release of any material, including non-toxic and non-flammable materials (e.g., steam, hot water, nitrogen, compressed CO_2, or compressed air), from a process that results in one or more of the following consequences:

- an employee, contractor, or subcontractor with a days-away-from-work injury and/or fatality;
- a hospital admission and/or fatality of a third party;
- an officially declared community evacuation or community shelter-in-place, including precautionary community evacuation or community shelter-in-place;
- fire or explosion damage greater than or equal to $100,000 of direct cost;
- an engineered pressure relief discharge to atmosphere whether directly or via a downstream destructive device;
- an upset emission from a permitted or a regulated source – of a quantity greater than or equal to the threshold quantities defined in API Recommended Practice 754 in any one-hour period that results in one or more of the following four consequences:
  - rainout;
  - discharge to a potentially unsafe location;
  - an on-site shelter-in-place or on-site evacuation, excluding precautionary on-site shelter-in-place or on-site evacuation;
  - public protective measures including precautionary public protective measures.
- a release of material greater than or equal to the threshold quantities described in API RP 754 in any one-hour period.

Note 2: A Tier 2 PSE is an LOPC with lesser consequence.

Note 3: This definition is based on American Petroleum Institute (API), *American Petroleum Institute Guide to Reporting Process Safety Events*, version 3.1. https://www.api.org/~/media/Files/Oil-and-Natural-Gas/Refining/Process%20Safety/API_Guide_to_Report_PSEs.pdf.

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