Sustainability reporting guidance for the oil and gas industry

March 2020
Legal note

This voluntary guidance document (Guidance) is designed to serve as a resource for interested companies; the indicators and information referenced in this work do not establish an industry standard as to the nature of a company’s public reporting practice. The recommendations in this Guidance on how to report on a particular issue are addressed to those companies who choose to voluntarily include that issue in their sustainability reporting and terms such as ‘the reporting company should …’ are to be understood in this sense.

The terms and definitions used in this document are not necessarily the same as terms and definitions used in various statutes, rules, codes or other legal documents. Users and readers of this document should refer to relevant legal sources or consult their own legal counsel for explanations as to how the terms and definitions used in this document may differ from the legal terms and definitions (e.g. spills and hazardous wastes) used in their particular areas of operation. Anything in this document regarding voluntary reporting of indicators is not intended to imply that any of the indicators are required to be reported under any national, local or other law. Furthermore, it is not intended to serve as a substitute for applicable public reporting requirements and regulations. Any company reporter that has a question as to whether or not reports that follow the information contained herein will meet any specific reporting requirements applicable to their particular operations should consult with the reporter’s own legal counsel.

A cautionary statement regarding performance indicators

Aggregated, company-level, non-financial performance data, developed using the indicators in this Guidance, can be informative for comparing relative performance among different companies, such as benchmarking safety incident statistics across the oil and gas industry. A company can use such comparisons to evaluate its own performance relative to peers, and identify areas for potential improvement. However, limitations to comparability exist due to various factors including the different methods companies may use to measure, normalize and report specific indicators. Although efforts have been made throughout the Guidance to improve comparability, report users are advised to exercise caution when using data from sustainability reports to compare performance. For example, comparing two companies that report greenhouse gas emissions on a different basis (e.g. equity share vs. operated) could be misleading regarding actual performance. Specific indicators from similar operations can sometimes be usefully compared to help performance management. However, the company-level, aggregate data typically reported in sustainability reports may not provide adequate comparability for some metrics. Where this Guidance mentions comparability, it is not intended to imply that data in sustainability reports, and therefore companies’ performance, are always directly comparable.

Furthermore and separate from company sustainability reporting, industry associations and others may choose to implement specific performance benchmarking studies, which may build upon the indicators in this Guidance.
Structure of the guidance

The Guidance in its entirety is made up of the following inter-connected modules. All modules, except for ‘Reporting process’ are accompanied by performance indicators.

- Reporting process (REP)
- Governance and business ethics (GOV)
- Climate change and energy (CCE)
- Environment (ENV)
- Safety, health and security (SHS)
- Social (SOC)

The REP module provides good practice guidance on how and what to report. The guidance covers important processes such as stakeholder engagement, determining materiality, developing narrative and reporting indicators.

Each of the other five modules introduces a set of related sustainability issues and provide guidance on developing your narrative supported by relevant industry specific indicators on these issues. In general terms, depending on materiality, your report’s narrative should provide an overview of:

- how you manage each issue;
- your overall approach to the issue and any policies you have in place;
- your management of risk and opportunity;
- key initiatives and actions;
- how you measure and monitor the issue; and
- how you review and learn in pursuit of continuous improvement.
KEY POINTS TO ADDRESS

The key points listed in this section have been developed through input from external stakeholders and industry subject matter experts. The overarching points are intended to inform your narrative, supported by the data and facts provided by the indicators that follow. Unlike indicators that primarily aim to establish consistency of reporting, these points provide an opportunity for your narrative to convey your company’s individual characteristics and unique culture that underpins how you address impacts and contribute to sustainability.

INDICATORS

To support your narrative, informed by the key points above, you should report on any or all of the suggested indicators, based on your material issues. Each indicator is defined by its Scope and its core and additional Elements, supported by any specific definitions of terms. A set of general Guidance definitions are provided in the Glossary.

INDICATOR DETAILS

<table>
<thead>
<tr>
<th>Why this matters</th>
<th>Summarizes why this indicator may be important to you, and what the indicator is seeking to show.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope</td>
<td>Describes the indicator and its associated reporting elements, in terms of their applicability and relevance; a separate list of ‘out of scope’ aspects may also be provided.</td>
</tr>
<tr>
<td>Basis (if needed)</td>
<td>For relevant indicators, this defines measurement units, as well as data consolidation / reporting boundary considerations.</td>
</tr>
<tr>
<td>Definition of terms (if needed)</td>
<td>Offers definitions that clarify terms specific to the indicator. More general terms are included in the Glossary.</td>
</tr>
<tr>
<td>Elements</td>
<td>See Step 5 in ‘How to report’ for how we number and summarize reporting elements.</td>
</tr>
</tbody>
</table>

Website and Supporting Materials (including the Glossary)

All modules of the Guidance can be downloaded from our website: [www.sustainability-reporting.org](http://www.sustainability-reporting.org). In addition to module downloads, the website also contains supporting materials. This includes the Glossary for the Guidance, which helps define many of the common terms used throughout all of the modules. In addition a useful list of Measurement Units and Conversion Factors is also available as a download.
Introduction

Oil and gas operations, from exploration to manufacturing, storing and transporting products, can have a wide-ranging impact on the environment. As a result, companies apply systematic tools to:

• identify and assess the environmental impact of their operational activities;
• mitigate risks of pollution or contamination, by applying environmental management systems (EMS) including use of control technologies;
• protect and conserve natural resources, particularly by managing materials efficiently and minimizing waste;
• reduce the impact of emissions and waste streams;
• respond effectively to incidents, particularly spills to water or land; and
• decommission assets at the end of their operating life in an environmentally-sound and safe way.

Environmental risks are of increasing importance to a growing number of stakeholders. Many banks, for example, have exclusions or use enhanced diligence processes when financing assets that are located in protected or sensitive areas. Rating agencies with a focus on environmental, social and governance performance consider environmental concerns and the strength of a company’s response to environmental risk management. Companies themselves carry out due diligence to examine environmental risks when conducting acquisitions and divestments. Poor environmental management can add operational risk, damage a company’s reputation and impact finances.

Using a robust EMS, or integrated operating management system (OMS), helps companies demonstrate continuous improvement in reducing their impact on the environment. Industry benchmarking based on common indicators also allows for greater performance comparison across the sector.

Environmental issues are generally local in nature, and differences in operations, risks, impact regulatory frameworks and local expectations can result in reporting challenges. Depending on the nature and location of your business activities, the issues you choose to report on may differ from those reported on by other companies.

WATER

Water is an essential resource for human development, agriculture and industry. The UN considers access to water and sanitation to be a human rights issue that entitles everyone to sufficient, safe, acceptable, physically-accessible and affordable water for personal and domestic uses [1]. With the global population rising, rapid urbanization and agricultural and economic development, demand on freshwater supplies is likely to intensify.
The effects of a range of issues, such as climate change, land use, and water availability, reliability and quality, have many potential implications for oil and gas industry activities. For example, industry operators may consider operational locations where the availability and quality of water are already challenges, or could become challenges in the future, or in locations exposed to extreme weather and flooding.

Lack of access to water can have a significant impact on local communities and stakeholders. It can also create physical, regulatory and reputational challenges for industrial users, including the oil and gas industry. For example, the use of water in hydraulic fracturing has led to environmental and community concerns, resulting in prohibition in some locations.

Meanwhile, the connection between energy and water is growing as countries look to increase energy supplies (such as biofuels) that may require greater access to water. Equally, energy — often from oil and gas — is typically needed to collect, transport, treat and distribute water. As a potentially significant local user and producer of water, oil and gas companies are vulnerable to water disruption in their operations and supply chains.

As a result, effective water management is essential, in terms of the volumes of freshwater and non-freshwater withdrawn or consumed, the protection of water quality and the maintenance of access to reliable resources. More companies are developing water management strategies, improving their understanding of water scarcity risk management, developing water technology, recycling, utilizing alternative water sources (such as produced water) and developing collective participatory approaches to water management, within the industry and with other sectors.

**BIODIVERSITY**

‘Biological diversity’ is the phrase used to describe our planet’s variety of living organisms from all sources, including terrestrial, marine and other aquatic ecosystems. In the oil and gas industry, biodiversity challenges tend to relate to the impact and dependency that onshore and offshore activities might have (in the short and long term) on air, water and land. However there are also opportunities, since business can help to develop and implement nature-based solutions to tackle issues such as climate change.

Biodiversity quality is the basis of effective ecosystems and, thereby, underpins the wide range of benefits (direct and indirect) that people derive from those systems — a concept known as ‘ecosystem services’.

**ECOSYSTEM SERVICES: THE BENEFITS THAT ECOSYSTEMS CONTRIBUTE TOWARDS HUMAN WELL-BEING**

(Millennium Ecosystem Assessment, 2005) [2]

Ecosystem services can be divided into four categories:

1. **Provisioning** — products or goods such as water, fish, or timber.
2. **Regulating** — ecosystem functions such as flood control and climate regulation.
3. **Cultural** — non-material benefits such as recreational, aesthetic and spiritual benefits.
4. **Supporting** — fundamental processes such as nutrient cycling and photosynthesis that support the above three categories.

*Source: Based on World Resources Institute (WRI) materials.*
Onshore and offshore operations occur in a wide range of natural and social environments with different sensitivities and regulatory regimes. Sometimes these operations take place in, or near, legally-protected areas, or sites high in biodiversity that are not legally protected but may still be relevant for conservation. These operations depend on environmental resources and have the potential to have direct, indirect and cumulative impacts on biodiversity. Identifying and managing these issues at an early stage can help a company manage its environmental risks and opportunities. Companies may act in accordance with the ‘mitigation hierarchy’, a tool that helps prevent and remediate biodiversity risk. IPIECA and IOGQ jointly published a briefing document in 2018 on managing biodiversity and ecosystem services that provides more information on applying the mitigation hierarchy in the oil and gas industry [3].

Reporters can draw information on biodiversity from impact assessments, strategies and plans and operations. Biodiversity offsets, which typically seek to compensate for any residual effects after all reasonably feasible preventative measures have been taken, are increasingly expected from both shareholders and stakeholders, such as host governments, finance institutions and conservation non-governmental organizations (NGOs). Offsets intended to mitigate carbon emissions may also have collateral effects on biodiversity, through activities such as reforestation or land / soil restoration, which offer a range of environmental and social benefits.

AIR QUALITY

Air emissions from oil and gas industry operations, including pipelines and transportation, may contribute to local or regional impacts that can affect human health, flora and fauna or cultural heritage sites.

Impacts associated with greenhouse gas emissions, which are global rather than local, are included within Module 3 Climate change and energy.

Engineering technologies can be designed for new plants or retrofitted to reduce air emissions, helping minimize the impact on local air quality.
SPILLS TO THE ENVIRONMENT

Oil spills, which can result from operational incidents, poor maintenance, or equipment corrosion, can in the worst cases have severe and multiple environmental, social, health and economic consequences. Spills can also have severe, long-term consequences for a company’s reputation.

For these reasons, in addition to reporting on the occurrence of spills, reporting on how a company is reducing and eliminating oil spills continues to be a primary indicator of operating performance. Module 5 Safety, health and security addresses oil spill loss of containment risk within indicator SHS-6. There is also a useful example in Module 1 Reporting process on ‘Spills to the environment and process safety’ on page 1.30 that illustrates how the environmental and safety aspects of spills can be linked within reports.

You will need to confirm your preparedness to respond reliably and rapidly to incidents and demonstrate that you have robust skills and resources to do so. It is good practice to separately report on non-hydrocarbon spills, if significant. These can include chemicals, produced or process water, raw materials or solid wastes. When reporting significant chemical or other non-hydrocarbon spills, you should include a description of the nature of the substance spilled and the associated risks. Spills of solids can include wastes such as plastic pellets, including nurdles.

MATERIALS MANAGEMENT

Materials management is an integral part of responsible consumption and production. It involves minimizing the quantity of materials / resources used, reducing waste and the sound management of chemicals, throughout the entire oil and gas industry supply chain. Robust management processes help minimize localized risks to the environment, communities and cultural heritage, while enhancing resource use and cost efficiency.

DECOMMISSIONING

When oil and gas assets reach the end of their lifecycle, there is a clear expectation that a company should decommission and, as appropriate, dismantle, remove from service or reuse the facilities in accordance with environmental standards, taking into account the needs of stakeholders and communities.

A company’s decommissioning plans need to be detailed and involve regulators and other stakeholders. Effective plans address potential environmental and social impacts, while making sure the work is carried out safely and in compliance with regulations. Decommissioning planning is normally regulated, with governments and industry working together to make sure that financial and organizational provision is made for plans that meet defined standards for environmental and cultural heritage protection and address societal expectations.

The technical complexity and potential impacts of onshore and offshore decommissioning will depend on the type, scale and geographic location of the assets, as well as ecosystem and socio-economic considerations. However, the overall goals are the same: protecting the environment; minimizing the impact on communities; and ensuring the safety of the workforce.
WATER

Key points to address

A. Context on your overall interaction with water and how that might affect other water users. This can include your strategic approach to water management across your supply chain and any responsible stewardship approaches (including stakeholder engagement) you take to manage water as a shared resource, such as a watershed-based approach. This is especially relevant in locations where water stress / scarcity is a concern.

B. A narrative account of any global or corporate-level public commitments you have put in place to manage water resources responsibly. This might include water use commitments in areas of water scarcity, or quantitative targets relating to water quality, intensity, recycling or reuse.

C. The types of operational activities where water management is material. As well as conventional upstream, midstream and downstream oil and gas activities, this could include other activities such as non-conventional extraction from shale or oil sands with potential impacts on local water or land resources, such as induced seismicity. Other examples may include power generation, heating and cooling processes, or the production of alternative / renewable energy sources, such as biofuels.

D. The risks and opportunities for your overall activities associated with water, setting out the nature of those risks, such as the effect of water shortages on operations, and how you assess and address them. Opportunities may stem from more efficient use of water within operations, increasing access to freshwater resources for local use.

E. Progress or outcomes from your stakeholder and regulatory engagements, risk assessments, resource efficiency plans, implementation activities, performance evaluations and management reviews.

To support your narrative, informed by these key points, you should report on any or all of the following indicators, based on your material issues.
Freshwater

**WHY THIS MATTERS**

Water management can influence the availability of water for the local environment, socio-economic development and future demands. Reporting on freshwater withdrawal and resources provides specific quantitative and qualitative information that supports your narrative on how you approach water management.

**SCOPE**

You should report the total volume of freshwater that you withdraw either directly from freshwater sources, such as lakes, groundwater aquifers and rivers, or from municipal freshwater supplies and other water utilities. Some operations may return significant amounts of freshwater, treated to the appropriate standards, back to the same or different source.

You should also report the amount of freshwater you consume (see Figure 4.1), which is the difference between the amount you withdraw and the amount you return. We would encourage you to report both freshwater withdrawn and consumed, subject to the availability of data, as this gives a more complete picture of your sustainability performance trends.

The following types of water should be excluded from these two reporting elements of withdrawn and returned freshwater:

- freshwater, used for once-through cooling water, returned unchanged (excluding thermal effects) into the same source, or a different freshwater body located in the same area in which the freshwater was originally withdrawn;
- produced water, including flowback water, from exploration and production operations;
- water provided – and already counted – by another facility within your company;
- stormwater discharged (if not harvested for freshwater site use); and
- fresh groundwater extracted solely for remediation or to control the migration of contaminated groundwater.
While the exclusions above refer to freshwater reporting, these other types of water are covered by several other reporting elements and you can include them if their impact is significant to your management of water.

If freshwater used for once-through cooling water is not returned to the same water source or another freshwater body, municipal supply or other water utility, it is considered consumptive use and you should, therefore, include it in your freshwater withdrawals.

As the potential effects are likely to be localized and more significant in areas where the freshwater supply is stressed or scarce, several reporting elements encourage you to provide additional information on your operations in such locations. When reporting on water-stressed or water-scarce areas, provide your company’s definition of these terms (see the Definitions of Terms page 4.9).

Note that other indicators in the guidance may link to your management of freshwater risks and opportunities, such as indicator SOC-9 in Module 3 Social.

**BASIS**

You should report the volume of freshwater in cubic metres (m$^3$) and consolidate it within your reporting boundary using the ‘operational approach’ (see Module 1 Reporting process). Reports should include examples or case studies to illustrate how you apply the indicator at a local level.

**REPORTING ELEMENTS**

**CORE**

<table>
<thead>
<tr>
<th>C1</th>
<th>Report the total volume of freshwater you withdraw.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2</td>
<td>Report the total volume of freshwater you consume.</td>
</tr>
<tr>
<td>C3</td>
<td>Provide a list and / or a percentage of your projects and operations that are in water-stressed or water-scarce areas.</td>
</tr>
<tr>
<td>C4</td>
<td>Report the percentage of freshwater you withdraw or consume in water-stressed or water-scarce areas, detailing how you reached that percentage.</td>
</tr>
<tr>
<td>C5</td>
<td>Report the total reduction in freshwater withdrawn or consumed due to your water reduction measures, including water you replace or recycle / reuse within your reporting boundaries.</td>
</tr>
</tbody>
</table>

**ADDITIONAL**

<table>
<thead>
<tr>
<th>A1</th>
<th>Report your freshwater consumption per unit of production, the freshwater consumption intensity and by business activity, such as oil and gas production and refining.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2</td>
<td>Report your freshwater withdrawal per unit of production, the freshwater withdrawal intensity and by business activity.</td>
</tr>
<tr>
<td>A3</td>
<td>Report your freshwater withdrawals related to once-through cooling water, not included in the core reporting elements.</td>
</tr>
<tr>
<td>A4</td>
<td>Report separately the volume of non-freshwater taken into your operation, as an alternative to freshwater withdrawn from surface or groundwater sources or purchased as potable water.</td>
</tr>
<tr>
<td>A5</td>
<td>Report water recycled / reused by third parties.</td>
</tr>
<tr>
<td>A6</td>
<td>Discuss your efforts to maintain / improve freshwater availability for local communities within water-stressed or water-scarce areas.</td>
</tr>
<tr>
<td>A7</td>
<td>Provide quantitative and qualitative information or case study examples on your operations located in water-stressed or water-scarce areas or other locations where you have identified potential water management risks, including:</td>
</tr>
<tr>
<td></td>
<td>• the percentage of freshwater you withdraw from water stressed areas;</td>
</tr>
<tr>
<td></td>
<td>• volumes of water you withdraw and / or consume from sources such as municipal water supplies and other water utilities and surface water, including water from lakes, rivers and aquifers;</td>
</tr>
<tr>
<td></td>
<td>• volume of freshwater (treated as necessary) you return to the freshwater environment;</td>
</tr>
<tr>
<td></td>
<td>• freshwater withdrawal or consumption intensity for the location;</td>
</tr>
<tr>
<td></td>
<td>• water management practices you have adopted;</td>
</tr>
<tr>
<td></td>
<td>• how you have avoided or minimized freshwater withdrawals;</td>
</tr>
<tr>
<td></td>
<td>• how impacts to freshwater-dependent biodiversity and ecosystems have been avoided or minimized; and</td>
</tr>
<tr>
<td></td>
<td>• your community and stakeholder engagement activities in relation to water management and the environment.</td>
</tr>
<tr>
<td>A8</td>
<td>Report your freshwater withdrawal as a percentage of total water withdrawn.</td>
</tr>
<tr>
<td>A9</td>
<td>Report your total volume of freshwater returned to the freshwater environment.</td>
</tr>
<tr>
<td>A10</td>
<td>Describe how you manage other types of water, including disposal. Other types might include produced water, process wastewater, stormwater or desalinated water. Descriptions may include:</td>
</tr>
<tr>
<td></td>
<td>• water treatment;</td>
</tr>
<tr>
<td></td>
<td>• water reused / recycled (indicating whether it is used by you or others); and</td>
</tr>
<tr>
<td></td>
<td>• water returned to the environment by destination, such as irrigation, evaporation ponds, deep wells. Indicate water volumes if appropriate.</td>
</tr>
<tr>
<td>A11</td>
<td>Provide information on your use of fresh groundwater extracted for remediation or to control the migration of contaminated groundwater.</td>
</tr>
</tbody>
</table>
DEFINITIONS

- **Freshwater**: the definition varies according to local statutes and regulations. Where no regulation exists, freshwater is defined for reporting purposes as non-brackish water and may include drinking water, potable water and water used in agriculture. The total dissolved solids (TDS) concentration of this type of water is up to 2,000 mg/l.

- **Freshwater withdrawn**: the volume of freshwater removed from sources (including surface water, groundwater, harvested rainwater and municipal water supplies) and taken into the operations of the reporting company for use.

- **Freshwater returned**: the volume of freshwater a facility discharges (directly or via a third party) into the same source or a different source within the same catchment / watershed. We recommend the discharge value is calculated by subtracting the amount of water that was not originally part of the freshwater withdrawn. Examples include collected stormwater, or any groundwater from remediation activities (unless used in the facility as a source of freshwater). Freshwater that is discharged to a different source that is a non-freshwater supply, body or aquifer should not be considered freshwater returned.

- **Freshwater consumption**: the difference between freshwater withdrawn and freshwater returned.

- **Freshwater withdrawal intensity**: the ratio between freshwater withdrawal and a defined unit of production, such as barrels of oil for upstream operations and crude oil throughput for downstream operations, and product specific for petrochemical operations. You can calculate this by dividing the volume of freshwater withdrawn by the output or volume of product created.

- **Freshwater consumption intensity**: the ratio between freshwater consumption and a defined unit of production. You can calculate this by dividing the volume of freshwater consumed by the output or volume of product created.

- **Water replaced**: water sourced from a non-freshwater body that has replaced an existing freshwater source to reduce freshwater withdrawal and / or consumption. This might include water types such as produced water, process wastewater, stormwater or desalinated water.

- **Water reused / recycled**: water that has been used more than once in a single process or used in other processes, with treatment as appropriate, to reduce freshwater withdrawal. Note that the terms reused and recycled are similar and not differentiated for this indicator. If reused / recycled water is reported quantitatively, the reported volume should equal the reduction in the volume of freshwater withdrawn that resulted from the reuse / recycling.

- **Reduction in freshwater withdrawn or consumed**: a decrease in the amount of freshwater withdrawn or consumed in the reporting year due to planned actions, projects or measures to replace or reuse / recycle water. Freshwater reductions should be sustainable in future years and can only be aggregated over multiple years when referenced against the total change in freshwater withdrawn or consumed in the same period.

- **Water stress / scarcity**: when reporting qualitative and quantitative water stress and scarcity information, the definition or indicator of stress and scarcity should be defined by you. There is no single, universally-accepted measure of stress and scarcity and many tools and models have been developed that map the issue. IPIECA has studied a range of these tools in the 2019 [pending] publication *Review of water risk tools*, and you should choose which one to use [4].
Discharges to water

WHY THIS MATTERS
The oil and gas industry handles large quantities of produced water, process wastewater and stormwater. These are normally treated to remove contaminants before being discharged, in compliance with regulatory requirements. This indicator gives specific quantitative and qualitative information on the amount of hydrocarbon and other substances present in discharges from your operations to surface water, including the sea, rivers, lakes and other waterways.

SCOPE
This indicator is about the level of concentrations of oil, grease and other hydrocarbons within water that is returned to the environment. Typically, local and national regulations will define levels of hydrocarbons permitted in discharges.

Depending on your operational activities and how material the issue is for your company, you may extend your scope to report separately on the amount of other substances that are discharged in water streams that you manage. This might include substances of concern – as defined by you, international standards or other authoritative lists – that could damage to waterways, ecosystems or human health.

You should report management (reuse, recycling or disposal) of waste streams, such as salts, brines, oils and sludges, which are separated from water prior to discharge under indicator ENV-7.

You may wish to address this indicator together with indicator ENV-1, under the overall issue of water management. This could include coverage of the approach you take to protect freshwater resources from your activities.

This indicator excludes:
- quantities of hydrocarbons that are discharged to third-party treatment facilities;
- quantities of hydrocarbons associated with a once-through cooling water withdrawal returned unchanged, excluding thermal effects; and
- spills to the environment – which are covered by indicator ENV-6 to the environment.

BASIS
Report discharge data in metric tonnes of hydrocarbons (oil and grease) or other substances. You may also express quantities in terms of annual average concentrations (in mg/l or ppm).

You should consolidate discharge data using your reporting boundary ‘operational approach’ (see Module 1 Reporting process). Where appropriate, you may include examples to illustrate how you apply the indicator at a local level.

You should make your measurements using test methods required or approved by local regulatory authorities (or equivalent applicable standards).
REPORTING ELEMENTS

CORE

C1 For upstream facilities, report the quantity of hydrocarbons (in metric tonnes) and/or annual average concentrations (in mg/l or ppm) in produced water and process wastewater that you discharge to surface water.

C2 For refineries and other downstream facilities, report the quantity of hydrocarbons (in metric tonnes) and/or annual average concentrations (in mg/l or ppm) that you discharge to surface water.

ADDITIONAL

A1 Report separately other constituents or measures other than that you discharge to surface water from your facilities. Other measures may include chemical oxygen demand (COD), sulphides, ammonia, phenols, total suspended solids (TSS), or non-aqueous drilling fluids discharged.

A2 Discuss your efforts to manage discharges within local water environments where there is greater potential for environmental risks or benefits.

A3 Describe your community and stakeholder engagement activities in relation to the way in which you manage discharges to water.

A4 Explain trends in discharged quantities with respect to operating conditions such as field maturity.

A5 Report the volumes of produced water and process water that are:
   • reused / recycled within the operation or to a third party;
   • discharged to surface water and/or
   • disposed of via underground injection wells.

A6 Report discharges to water by destination type.

A7 Report water discharges in areas of high water stress.

DEFINITIONS

• **Produced water**: water that is brought to the surface during the production of hydrocarbons including formation water, flow-back water and condensation water.

• **Process wastewater**: water associated with operations that comes into contact with hydrocarbons or other chemicals.

• **Stormwater**: precipitation falling on (or run-off flowing across) a site, which is collected and discharged from point source outlets, such as pipes, collection ditches, storm sewers.

• **Discharges**: intentional releases from a facility into a waterway, typically through a permitted outlet after treatment.

• **Surface water environment**: fresh or saline surface water bodies, including rivers, lakes, wetlands, seas or oceans. Surface water excludes water in the atmosphere or groundwater.
BIODIVERSITY

Key points to address

A. How you incorporate biodiversity considerations into your governance and business processes for the lifecycle of your projects and activities. This may include how you integrate these processes within environmental management systems (EMS) or health, safety and environment (HSE) management systems (you may directly link to or incorporate this into your general reporting on governance and management systems).

B. Any public commitments you have made to protect or enhance biodiversity, such as a commitment to avoid working in sensitive areas or to pursue ‘net gain’ or ‘no net loss’.

C. Qualitative or quantitative information to describe your overall biodiversity performance, and strategic decisions or positions, including if you set targets for continuous improvement and adaptive biodiversity management.

D. How you engage your stakeholders to include their perspectives, particularly local communities. Your narrative should set out how you assess and address their concerns in your biodiversity conservation planning and activities. At a corporate level, you can outline the way in which you work with biodiversity organizations or experts to understand emerging trends and good conservation practices. You could include site-level examples to demonstrate how you address stakeholder concerns about potential impacts.

E. Reference to any multi-stakeholder initiatives or partnerships you work with to promote improved understanding of biodiversity and ecosystems, or to address potential impacts to biodiversity.

F. Your broader approaches to protect biodiversity and ecosystem services, such as landscape-wide conservation initiatives, across countries, regions or communities. You might include an account of your approach to biodiversity offsets; descriptions of initiatives to protect and / or restore natural habitats, such as forests; or to protect and / or restore other land or marine environments.

To support your narrative, informed by these key points, you should report on any or all of the following indicators, based on your material issues.
**ENV-3 Biodiversity policy and strategy**

**WHY THIS MATTERS**

It is a common expectation that companies set out their approach to how they manage their direct, indirect and cumulative impacts on biodiversity. This indicator encourages you to describe your overall approach to identifying and managing biodiversity risks and how you manage dependencies and impacts following the framework of the mitigation hierarchy [3], as well as potential opportunities for improvement and conservation.

**SCOPE**

You should describe your policies, commitments, strategies and plans for ensuring that biodiversity management is integrated into your operations throughout their lifecycle. You can broaden your narrative to include impacts and dependence on ecosystem services.

Potential impacts, management approaches and conservation opportunities vary according to geography, where an asset is in its lifecycle, and with the type of activity involved. Consequently, the materiality of this indicator can vary significantly between companies.

**BASIS**

You may support qualitative information with quantitative data, which should be consolidated within your reporting boundary using the ‘operational approach’ (see Detailed guidance on developing a reporting boundary in Module 1 Reporting process).

As noted in reporting element C1 in relation to risk management, you should explain the basis or criteria for determining the sensitivity of operating areas, with consideration of potential primary, secondary and / or cumulative impacts as appropriate.

**REPORTING ELEMENTS**

**CORE**

| C1 | Describe your biodiversity management approach, including policy, positions, goals, strategies, risk / impact assessments, mitigation plans and outcomes. This can include how you apply the mitigation hierarchy and international biodiversity standards in your operational planning, from early concept through to decommissioning. |
| C2 | Provide examples or case studies of operating areas where you have put biodiversity management activities and adaptive management in place. |
| C3 | Set out your processes for identifying and managing activities in sensitive operating areas, such as Biodiversity Actions Plans. Include the criteria you use to determine sensitivity and any applicable metrics. |
**ADDITIONAL**

A1 Describe how you integrate biodiversity issues within your business strategies, including plans, commitments or targets for investment in initiatives and technologies that have the potential to conserve and/or enhance biodiversity and/or ecosystem services.

A2 Describe how you identify, assess and manage biodiversity impacts within your supply chain.

A3 Outline how you consider the biodiversity impact of your products, taking into account their sale, use and disposal.

A4 Describe any planned or current biodiversity offset projects (in the context of the mitigation hierarchy).

**DEFINITIONS**

- **Adaptive management**: the process of monitoring, assessing, and reporting the results of management practices and/or mitigation plans and using the results to improve future biodiversity performance.

- **Biodiversity Action Plans (BAPs)**: a set of current or planned actions aimed at addressing identified biodiversity impacts that will lead to the conservation or enhancement of biodiversity at local level.

- **Biodiversity**: the UN Convention on Biological Diversity (1992) [5] defines biodiversity as the variability among living organisms within species, between species and between ecosystems. Biodiversity quality and richness are the basis of the integrity and effective working of ecosystems and thereby underpin all services they provide.

- **Dependencies**: the ecosystem services that a project or operation relies on to complete its work or run the business. For example, water, aggregates, storm/flood protection, water discharge treatment.

- **Ecosystem**: dynamic plant, animal and microorganism communities and their non-living environment interacting as a functional unit (Millennium Ecosystem Assessment, 2005) [2]. They include, but are not limited to, coral reefs, tundra, wetlands, forests, grasslands and farmlands.

- **Ecosystem services**: The Millennium Ecosystem Assessment (2005) defines ecosystem services as the benefits (direct and indirect) that people obtain from ecosystems [2]. The Assessment defines four categories of ecosystem services: provisioning services (products obtained from ecosystems such as freshwater or timber); regulating services (ecosystems’ control of natural processes such as climate, disease, water flows and pollination); cultural services (recreation, aesthetic enjoyment); and supporting services (natural processes such as nutrient cycling that maintain other services).

- **Habitat**: the place or type of site where an organism or population naturally occurs.

- **Operating area**: where business activities take place that have the potential to interact with the adjacent environment.
ENV-4
Protected and priority areas for biodiversity conservation

WHY THIS MATTERS

This indicator provides information on the location and scale of your significant assets and projects that are in or near designated protected areas for biodiversity conservation identified by scientific criteria. This may indicate the potential for your operations to impact biodiversity and your exposure to biodiversity risk.

SCOPE

There is huge variation in the description of criteria and management approach for protected areas and priority sites for conservation at a global, regional and national level. A protected area is a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values (IUCN definition 2008, 2013). For consistency, it is recommended for reporting elements C1 and A1 that you refer to the IUCN categorization for national protected areas. In addition, you may take into consideration:

• International protected area designations including UNESCO World Heritage sites (natural and cultural), the Ramsar Convention wetlands sites and the UNESCO Man and Biosphere Reserves; and

• Key Biodiversity Areas (KBAs) – sites that contribute significantly to the global persistence of biodiversity (as listed by the KBA Partnership).

Depending on specific concerns in your locations of operation, other national or regional protected areas or priority sites may be relevant. The Integrated Biodiversity Assessment Tool (IBAT) from the IBAT Alliance provides a useful compendium of both protected areas and KBAs.

Please note the definition of terms provided in indicator ENV-3. It should be noted that your operating areas may be within, adjacent or near more than one type of biodiversity-rich area. Although this indicator does not define ‘near’ in terms of an absolute distance or buffer zone, your impact assessments for operations or projects can help indicate if biodiversity may be affected in an adjacent or near protected area.

BASIS

You should include qualitative information including examples to illustrate how you apply the indicator at regional and local levels. You may support this with quantitative data, which you should consolidate within your reporting boundary using the ‘operational approach’ (see Module 1 Reporting process).
## INDICATORS

### WATER
- ENV-1 Freshwater
- ENV-2 Discharges to water

### BIODIVERSITY
- ENV-3 Biodiversity policy and strategy
- ENV-4 Protected and priority areas for biodiversity conservation

### AIR EMISSIONS
- ENV-5 Emissions to air

### SPILLS TO THE ENVIRONMENT
- ENV-6 Spills to the environment

### MATERIALS MANAGEMENT
- ENV-7 Materials management

### DECOMMISSIONING
- ENV-8 Decommissioning

## REPORTING ELEMENTS

### CORE

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Provide a list and/or a percentage of your projects and operations that are in or near protected areas and priority sites for biodiversity conservation.</td>
</tr>
<tr>
<td>C2</td>
<td>Describe your commitments, including avoidance and mitigation measures, that relate to projects and operations in or near protected areas and priority sites for biodiversity conservation.</td>
</tr>
</tbody>
</table>

### ADDITIONAL

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
</table>
| A1      | For projects and operations included in C1, describe your progress on:  
- ongoing or planned biodiversity / ecosystem services activities;  
- biodiversity impact mitigation measures;  
- BAPs in place; and  
- monitoring plans and verification processes. |
| A2      | Describe the outcomes of any baseline assessments for planned projects where future activities are in or near internationally-protected biodiversity areas. |
AIR EMISSIONS

Key points to address

A. Your overall position on air quality, including risks and related impacts, as well as opportunities to improve air quality, including any specific targets or commitments. You can highlight any air quality issues that relate to public health in cities and other relevant locations.

B. Your approach to managing the impact your operations have on air quality, with reference to applicable regulatory frameworks, or internal frameworks, if local rules are less stringent. In addition to the atmospheric pollutants reported quantitatively in indicator ENV-5 below, you can include localized impacts of other airborne pollutants, such as noise, odours or black smoke from non-routine flaring, that result in neighbouring community concerns. You may also capture these concerns in your community grievance reporting mechanisms outlined in indicator SOC-12, Community Grievance Mechanisms.

C. Air quality issues that relate to your value chain or supply chain, such as emissions from transportation (road, marine or aviation). For companies with downstream marketing and retail activities, you could include discussion of vehicle exhaust emissions and urban air quality impacts. You should outline any individual or collaborative efforts to supply cleaner fuel products with lower environmental impacts.

To support your narrative, informed by these key points, you should report on any or all of the following indicators, based on your material issues.
ENV-5

Emissions to air

WHY THIS MATTERS

Emissions to air are an important determinant of local and regional air quality and can affect human health, flora and fauna or cultural heritage sites. This indicator enables you to set out the quantities of emissions to the atmosphere from your operations and describes how you monitor and manage the impact of these emissions. It gives you an opportunity to discuss any innovative approaches you take to manage air emissions as well as to report on your performance, based on quantities of pollutants released annually to the atmosphere.

SCOPE

You should report significant emissions released to the atmosphere from your operations by category. The specific substances included in each emissions category are detailed in the definition of terms or as specified by the local regulatory agency. Categories of emissions that are of significance for many oil and gas companies include:

- volatile organic compounds (VOCs);
- sulphur oxides (SO\(_x\));
- nitrogen oxides (NO\(_x\)), excluding N\(_2\)O;
- carbon monoxide;
- particulate matter (PM);
- ozone-depleting substances (ODS); and
- other regulated air emissions.

This scope does not include carbon dioxide and methane, which are reported within indicator CCE-4.

Approved or required methods of estimation and calculation of air emissions vary according to local regulatory standards and by facility permit requirements. You should describe the approved local methodologies that you are using to gather this performance data.

BASIS

Report quantitative emissions data in metric tonnes (SO\(_2\), reported as SO\(_2\), and NO\(_x\), reported as NO\(_x\)). You should consolidate air emissions data within your reporting boundary using the ‘operational approach’ (see Module 1 Reporting process for more on reporting boundaries) and, if appropriate, include examples to illustrate how you apply the indicator at a local level. Companies should determine significance when considering types and location of emissions.
REPORTING ELEMENTS

**CORE**

<table>
<thead>
<tr>
<th>C1</th>
<th>Report your total emissions, by category:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• volatile organic compounds (VOCs);</td>
</tr>
<tr>
<td></td>
<td>• sulphur oxides (SOx);</td>
</tr>
<tr>
<td></td>
<td>• nitrogen oxides (NOx).</td>
</tr>
</tbody>
</table>

| C2 | Discuss how you monitor and manage the impact of your operations on local air quality, including any technologies you use, such as those that remove or treat combustion emissions in operations or fuel products. |

**ADDITIONAL**

<table>
<thead>
<tr>
<th>A1</th>
<th>Report your total emissions, by category, if significant:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• particulate matter (PM);</td>
</tr>
<tr>
<td></td>
<td>• carbon monoxide;</td>
</tr>
<tr>
<td></td>
<td>• ozone-depleting substances (ODS); and</td>
</tr>
<tr>
<td></td>
<td>• other air emissions with an environmental impact, taking into account local regulatory categorizations and requirements.</td>
</tr>
</tbody>
</table>

| A2 | Report your emissions by regional and / or business activity, where relevant. |

| A3 | Share case studies, or other forms of local reporting or data that demonstrate air quality management at regional, national or local levels, including locations where you have put specific initiatives or measures in place to alleviate poor air quality. |

**DEFINITIONS**

Due to air pollution regulations at national, regional and local levels, the specific compounds regulated in each emissions type may vary slightly. The following definitions are provided as a guide for reporting:

- **Nitrogen oxides (NOx):** includes the total nitric oxide (NO) and nitrogen dioxide (NO₂) expressed as NO₂ equivalent and excludes nitrous oxides (N₂O).

- **Sulphur oxides (SOx):** includes sulphur dioxide (SO₂) and sulphur trioxide (SO₃) expressed as SO₂ equivalent.

- **Volatile organic compounds (VOCs):** organic compounds, excluding methane and ethane, that vaporize in the atmosphere and may participate in photochemical reactions. VOCs should be defined in accordance with regulatory requirements where a local regulatory agency has defined measures for specific compounds. You should specify which species are included in your reporting, for example ‘non-methane VOC’, and highlight any locations where a local regulatory agency has defined specific compounds.

- **Particulate matter (PM):** a complex mixture of extremely small particles and liquid droplets. PM is made up of several components, including acids, such as nitrates and sulphates, organic chemicals, metals and soil or dust particles. Definitions depend on local regulations and are frequently based on particle size (e.g. PM₁₀ or PM₂.₅). Companies should specify which PM metric they are reporting.

- **Ozone-depleting substances (ODS):** includes halons, CFCs, HCFCs and methyl bromide (we suggest reporting when quantities emitted may be of interest). While ODS are not produced by oil and gas activities, they may be used for activities such as refrigeration, gas processing and fire suppression.
SPILLS TO THE ENVIRONMENT

Key points to address

A. An overview of any significant spills of oil or hazardous chemicals into the environment and the corrective actions taken to address them.

B. How you assess and address risks of spills at a corporate level, including oversight from your board and/or senior management. Include both spill prevention and response when outlining your management approach. You can link this narrative to your reporting on process safety risks (see SHS-6 in Module 5 Safety, health and security).

To support your narrative, informed by these key points, you should report on any or all of the following indicators, based on your material issues.
ENV-6

Spills to the environment

WHY THIS MATTERS
Oil spills can in the worst cases have severe and multiple environmental, social, health and economic consequences and can also severely affect a company’s reputation. This indicator provides information on your management approach to prevent and respond to unintended spills of regulated liquids subject to release reporting laws to land or water, onshore and offshore. It details your performance based on the number and volume of oil or chemical spills and can include details on the consequences of spills to the local environment, communities or cultural heritage.

SCOPE
Your reported volume should represent the total estimated amount spilled that reached the environment. It should not be reduced by the amount of hydrocarbons subsequently recovered, evaporated or otherwise lost.

In addition to reporting spills that reach the environment, you may choose to report separately on the number and volume of spills from primary containment; that is, spills that reach the environment, plus those that are contained within impermeable secondary containment.

This indicator highlights operational performance and directly relates to process safety, in terms of prevention of spills and recording spills as process safety events (see Module 5 Safety, health and security). You can report gas releases and spills that meet specific criteria as process safety events under indicator SHS-6.

You should include releases from:
• your operations, for example, releases from above-ground and below-ground facilities or from company-owned and operated transport; and
• events outside your operational control, for example, sabotage, earthquakes and extreme weather events.

You should only count leakage over time, above ground or underground, once, at the time it is identified.

You may report spills to soil and water separately. A spill that qualifies as a spill to both soil and water should be reported as a single spill to water, with the volume properly apportioned to soil and water.

You should exclude the following:
• once previously reported, spilled materials in the environment from historical losses;
• even if not previously reported, spilled materials in the environment from historical losses where the volume or source of the historic release is unknown; and
• hydrocarbons in produced water discharges or otherwise permitted discharges, such as wastewater effluents, which are included in indicator ENV-2.

In the absence of analytical data, you might choose to estimate the hydrocarbon content of spills of oil-water mixtures, for example, oil-water emulsions. If you are reporting spills with both hydrocarbon and non-hydrocarbon components, you should report a single hydrocarbon spill with the volumes properly apportioned to the extent
reasonably possible. If relevant, you may separately report spills of other materials. For chemical spills involving:

- miscible solutions: the spill volume is based on the total volume of material spilled; and
- insoluble mixtures: the spill volume is based on the volume of the chemical constituent.

When reporting significant chemical spills, you should include a description of the nature of the substance spilled and any associated risks. Spills of solids can include plastic pellets, including nurdles. Spills of inert solid materials, such as solid sulphur, barium sulphate, bentonite or cured solid concrete as well as treated or untreated wastewater, are excluded.

**BASIS**

It is standard industry practice to report the number and volume of hydrocarbon spills greater than one barrel (bbl) that reach the environment. For reference, 1 bbl = 42 US gallons or 159 litres; for solids, convert mass to volume in barrels, for example, using 159 kg or similar default value for weight of material. You should report volumes in barrels or cubic metres (1 m³ = 6.29 US bbl).

You should consolidate your oil spill data within your reporting boundary using the ‘operational approach’ (see Module 1 Reporting process for more on reporting boundaries) and include examples to illustrate how you apply the indicator at a local level.

You should determine significance (see Glossary) when considering reporting by type or location, or for individual spills.
# Reporting Elements

## Core

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Describe your strategies and risk-based approach to prevent accidental releases of hydrocarbons / other materials to the environment.</td>
</tr>
<tr>
<td>C2</td>
<td>Report the number and volume of hydrocarbon spills greater than 1 bbl reaching the environment.</td>
</tr>
</tbody>
</table>
| C3 | Provide case studies or examples of significant spills, as determined by the company, which may include descriptions of the following:  
  • your response measures to address immediate and long-term effects;  
  • any secondary effects on local communities and stakeholders;  
  • your stakeholder engagement;  
  • incident investigation findings, if available, including root-causes; and  
  • actions you are taking to prevent recurrence and share lessons. |
| C4 | Describe your emergency preparedness and response programmes, plans, organizational structures and affiliations for an effective response to spills and other emergencies. Your description may include the development and checking of contingency plans, including aspects such as training, skills development, and emergency response exercises. |

## Additional

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>A1</td>
<td>Report the volume of hydrocarbons / other materials you recovered.</td>
</tr>
<tr>
<td>A2</td>
<td>Report the number and volume of hydrocarbon spills greater than 1 bbl from primary containment.</td>
</tr>
<tr>
<td>A3</td>
<td>Report, separately, your hydrocarbon spills to soil and to water, by number and volume spilled.</td>
</tr>
<tr>
<td>A4</td>
<td>Report, separately, your hydrocarbon spills by business activity, such as production or chemicals.</td>
</tr>
<tr>
<td>A5</td>
<td>Report the number and volume of spills of non-hydrocarbon materials, including chemicals, produced water or other materials, to soil and to water.</td>
</tr>
<tr>
<td>A6</td>
<td>Report spills with lower thresholds (less than 1 bbl) where smaller spills are significant to certain activities or locations. For example, marketing and transportation may have more small spills than other operations.</td>
</tr>
<tr>
<td>A7</td>
<td>Discuss, in qualitative terms, any significant impact on the environment caused by a spill, particularly from larger releases or from a small release into a sensitive environment.</td>
</tr>
<tr>
<td>A8</td>
<td>Separately report significant hydrocarbon spills from product transportation by third parties, including your definition of significance used for this category of spill.</td>
</tr>
</tbody>
</table>
DEFINITIONS

• **Spill to the environment**: any unintended release of liquids or solids associated with current operations, from primary or secondary containment, into the environment.

• **Environment**: surface water, soil, groundwater, and ice-covered surfaces where:
  - ‘soil’ includes surfaces such as sand, silts, shells and gravel, not designated as impermeable secondary containment, as well as the underlying sediments and groundwater resources;
  - ‘surface water’ includes creeks, rivers, ponds, seas, oceans, but excluding ponds, pits, basins, located on your property for purposes of hydrocarbon containment / treatment;
  - spills to snow- or ice-covered surfaces and standing rainwater are classified based on the surface below the snow, ice or water.

• **Hydrocarbon liquids**: crude oil, condensate and petroleum-related products containing hydrocarbons that are used or manufactured, such as: gasoline, residuals, distillates, asphalt, jet fuel, lubricants, naphthas, light ends, bilge oil, kerosene, aromatics, refinery petroleum-derivatives, non-aqueous drilling fluids (NADFs). Includes:
  - biofuels, regardless of percentage mixture with petroleum-based materials (if 100% methanol or ethanol it would be a chemical spill); and
  - the oil fraction of oil / water mixtures (e.g. emulsions, production fluids).

• **Non-hydrocarbon materials**: chemicals, aqueous-based drilling fluids, produced water and other process-related non-hydrocarbons. Examples of chemicals include methanol, ethanol, ketones, methyl tertiary butyl ether (MTBE), sulphuric acid, caustic, molten sulphur, stimulation acid, brine, dry salts, uncured or powdered cement. Spills of inert solid materials, such as solid sulphur, barium sulphate, bentonite or cured solid concrete as well as treated or untreated wastewater, are excluded.

• **Primary containment**: a vessel, pipe or barrel designed to keep a material within it.

• **Secondary containment**: an impermeable, non-leaking physical barrier specifically designed and maintained to keep spilled materials from reaching soil or water. For example, high-density polyethylene (HDPE) liners, engineered clay liners, asphalt, concrete. Earthen berms do not count as secondary containment unless they are engineered to be sufficiently impermeable to prevent spilled oil from contaminating underlying soil and / or groundwater.

• **Recovered hydrocarbons**: the spilled hydrocarbons removed from the environment through short-term spill response activities. This does not include longer-term remediation of the spill site. Oil that evaporates, burns or is dispersed into the water column should not be included in recovered volumes. This volume provides an indication of the effectiveness of your immediate oil spill response measures.
MATERIALS MANAGEMENT

Key points to address

A. The importance of materials management to your company, including any high-level positions or policies. You may refer to areas such as:
   i. waste hierarchy, including avoidance, reduction, reuse, recycling and disposal principles;
   ii. sustainable consumption and production; and
   iii. application of circular economy principles to reduce consumption and maximize the life and value of materials.

B. Context about your activities and the specific materials you produce or use that have potential impacts on the environment, such as lubricants, drilling fluids, plastics (including microplastics) and construction components.

To support your narrative, informed by these key points, you should report on any or all of the following indicators, based on your material issues.
ENV-7
Materials management

WHY THIS MATTERS
Effective materials management can help minimize local risks to the environment, communities and cultural heritage, and can enhance resource use and cost efficiency. This indicator highlights your efforts to manage materials throughout a project or activity’s lifecycle. You should report quantities of waste from your operations and describe your overall approach to managing materials including your efforts to minimize the amount of materials you use, operate efficiently and reduce waste. This can include a description of your application of circular economy principles.

SCOPE
Your description of your materials management approach should be company-wide, covering the lifecycle of resources, and your entire supply chain. You should include any efforts to minimize waste, together with information on new technologies designed to avoid the generation of waste.

You should report the quantity of hazardous waste that you dispose, including on-site and off-site disposal.

You may report separately the quantities of non-hazardous waste that you dispose, as well as waste that you reuse, recycle or recover. You should state the basis for your assessment clearly and include the following sources:

- waste from operational activities;
- waste from immediate responses and clean-up of spills; and
- waste from the replacement or upgrade of existing facilities.

For routine reporting of waste amounts under reporting elements C3 and A1, waste from the following sources is excluded:

- remediation of historical contamination at active sites;
- remediation of inactive or abandoned properties;
- facility or plant demolition;
- construction of new facilities;
- maintenance of contractor-owned equipment, any materials brought on site and eventually disposed of as surplus by the contractor;
- drilling muds and cuttings;
- mine tailings; and
- produced water and wastewater.

As discussed below, waste from these excluded sources can be separately reported in A3, if significant. In addition, if a regulatory authority defines any of these out-of-scope materials as hazardous – or some equivalent term – and they are disposed of as defined above, you should report them accordingly as hazardous waste.
Using reporting element A3, separate reporting of waste from unusual or high-volume events may allow stakeholders to better understand any year-to-year fluctuations in your data. In addition to the excluded sources list above, events that can lead to short-term fluctuations in waste include shutdowns and periodic maintenance activities that can generate high volumes of wastes, such as spent catalyst from downstream and midstream operations that needs to be treated before disposal and recycling. Waste streams included in separate reporting should be clearly described.

In locations where no appropriate waste infrastructure exists, you may need to store waste safely on-site for an extended period before final disposal or recovery is possible. You should report the quantity of waste in such storage separately if the amount is significant to your overall total of waste reported.

Similarly, you should explain the inclusion of large one-off disposals of stored waste in your reported numbers.

**BASIS**

Report mass of waste in metric tonnes. You should consolidate waste data within your reporting boundary using the ‘operational approach’ (see Module 1 Reporting process for more on reporting boundaries).

It may not be practical to account for all waste from your operations. If you have adopted a minimum reporting threshold, where a facility does not track waste information, it is good practice to disclose your threshold and indicate the significance to your data – indicating if, for example, routine waste from marketing operations is below an established minimum level.

It is useful to measure or estimate quantities of wastes (both hazardous and non-hazardous) using methods required or recommended by regulatory agencies or authorities. You should state your chosen method of measurement and estimation. Recommended methods include:

- direct measurement of quantity on site;
- direct measurement by transporters at the point of shipping or loading (consistent with shipping papers);
- direct measurement of quantity by waste disposal contractor at the point of waste disposal or by transporters, at the point of shipping or loading; and
- engineering estimates or process knowledge.
REPORTING ELEMENTS

CORE

C1 Describe your approach to materials management. This may include your operational strategies to optimize design, minimize the amount of materials you use, and promote efficient use while ensuring sustainable recovery and regeneration for further beneficial use.

C2 Describe your efforts to minimize the generation and disposal of waste, to increase reuse and recycling and to continuously improve your materials management practices.

C3 Report the quantities of waste that you:
• generate;
• dispose; and
• recycle, reuse or recover.

You may report hazardous and non-hazardous waste separately, or total waste, stating that this includes both hazardous and non-hazardous material.

ADDITIONAL

A1 Report separately quantities of waste by waste streams and by business, highlighting any new initiatives or projects to reduce or eliminate specific waste streams, such as measures that adopt the principles of the circular economy.

A2 Report separately the quantities of waste you store and that are awaiting treatment prior to disposal or recycling.

A3 Report separately the waste that is excluded from routine reporting, such as remediation activities at active and / or inactive sites, unusual activities, such as large one-time construction projects, or large-volume wastes, such as drill mud and cuttings.

A4 Describe any collaborative projects to establish new or improved facilities that enhance local materials and waste management infrastructure.
DEFINITIONS

- **Waste**: material (solid or liquid) intended for disposal, reuse, recycling or recovery either on- or off-site that is the result of your operations. Includes domestic waste and other discarded material from offices and commercial activity, such as retail. It does not include regulated or authorised water discharges, such as effluent from water treatment plants or produced water from oil and gas production.

- **Hazardous waste**: waste that is defined as toxic, dangerous, listed, priority, special — or similar term — by an applicable country, regulatory agency or authority.

- **Non-hazardous waste**: industrial waste resulting from your operations, including process and oil field waste (solid and liquid) disposed either on- or off-site. Includes industrial waste and other office, commercial or packaging-related waste. Excludes hazardous waste as defined above.

- **Disposal**: any waste management option, either on- or off-site, classified as ‘disposal’ by an appropriate regulatory agency or authority. In cases where such classification is absent, any waste management that does not meet the definition of ‘reused, recycled and recovered’ waste, such as land filling or burning without energy recovery. Temporary storage is not considered disposal.

- **Reused, recycled or recovered waste**: waste from an industrial or commercial process that is not disposed of, but is reused, for example, used as a raw material for another process, or recovered for beneficial use. The term ‘reused, recycled or recovered materials’ is equivalent and may be preferred to align reporting with local regulatory definitions. Examples may include catalysts sent for reclamation, sludge used for fuel, reused construction materials, recovered used oil and solvents, recycled scrap metal, drums, pallets and packaging returned or reused, plastic, glass or paper reused or reprocessed and uncontaminated earthen materials used as fill.
DECOMMISSIONING

Key points to address

A. Your overall approach to decommissioning for different types of assets, such as offshore and onshore upstream production facilities, refineries, chemical plants, pipelines or terminals.

B. Context on any risks and opportunities related to your facilities that are approaching the end of their productive life and that are due to be decommissioned, highlighting any significant planned or current projects.

C. Your process to engage stakeholders and regulators when planning and executing decommissioning projects. This could include how potential social impacts are considered when an employer is no longer present after facilities are decommissioned.

D. The practical steps you apply for decommissioning, including abatement of hazards, materials management during demolition, remediation to acceptable standards, and reclamation to restore the site for future use.

To support your narrative, informed by these key points, you should report on any or all of the following indicators, based on your material issues.
ENV-8

Decommissioning

WHY THIS MATTERS

There is a clear expectation that companies should dismantle and remove or reuse facilities in accordance with environmental standards, and take account of the needs of stakeholders and communities. This indicator provides an opportunity for you to share information on current and future decommissioning projects and to describe your plans and processes for environmental protection and restoration, including abatement, demolition, remediation, reclamation and beneficial materials management.

SCOPE

Your management approach may include descriptions of established policies, standards, processes, practices or procedures.

You may want to include information on planned resources, such as finance and labour, recycling and reuse of materials, asset disposal, safety, security, engagement with communities and/or local authorities, and efforts to minimise any negative socio-economic impacts associated with asset closure.

You may provide the number, geographical location, description and progress status of any significant decommissioning projects you are currently working on, individually or by type. You may also include any intended outcomes and plans for use of the asset for beneficial end use.

You may want to focus on larger single projects, such as the decommissioning of entire facilities, such as an offshore production platform or a refinery, or collectively describe the different types of decommissioning activities you carry out. You could include smaller assets, such as fuel terminals and service stations depending on their relative importance.
BASIS

You should clarify your terminology and the types of assets that your approach covers. You should determine which projects are ‘significant’ for reporting based on the scale, location, type and their potential impact. In determining ‘significant’, you should consider issues such as the asset’s financial scale, and its environmental and social impact before decommissioning and as a result of decommissioning.

REPORTING ELEMENTS

CORE

C1 Describe your approach to planning and executing decommissioning activities for offshore and onshore assets.

C2 Provide information on management of materials recovered from decommissioning activities including any applicable data on the percentage of materials reuse and recycling, achieved or planned, for significant decommissioning projects (i.e. for major facilities such as offshore production rigs, refineries or major pipelines / terminals).

ADDITIONAL

A1 Provide the number, location, status and brief description of decommissioning and associated remediation projects that you consider to be relevant.

A2 Describe any technology and research you are involved in related to decommissioning and remediation.

A3 Describe the environmental and social (including economic) impact of your decommissioning work and any post-decommissioning monitoring plans you have in place.

A4 Report the total financial provision made by the company for decommissioning offshore and / or onshore projects.

DEFINITIONS

• **Assets**: an identifiable resource that is owned or controlled by you. Typically, an asset is a single or group of facilities based on land or sea, that may include buildings and engineered structures (e.g. refineries, production rigs or platforms, chemical facilities, process plants, wells, pipelines, terminals, electrical distribution systems, roads, retail outlets, offices or supporting infrastructure).

• **Decommissioning**: a structured process of planning, preparation and execution, leading to the eventual removal from service or reuse of an asset, giving due consideration to the potential impact on the environment and communities. The term ‘decommissioning’ is intended to include the following activities:
  - Abatement: safe removal of hazards, such as asbestos, polychlorinated biphenyls (PCBs), hydrocarbon, or hydrogen sulphide (H2S) from an asset.
  - Demolition: the process and activities to remove an asset.
  - Remediation: a process to reduce or eliminate the impact on areas of land or water in order to restore environmental conditions to acceptable levels, with reference to regulatory or company standards as appropriate.
  - Reclamation: the restoration of disturbed lands to similar pre-development condition, other economically-productive use, or natural or semi-natural habitat.
References, links and other sources

References with links


Other sources and links

Water


- CDP, 2014: [https://www.cdp.net/en/water](https://www.cdp.net/en/water)


- GEMI, 2016: IPIECA Local Water Tool for Oil and Gas. [http://gemi.org/localwatertool/downloads.html](http://gemi.org/localwatertool/downloads.html)


Biodiversity


• International Finance Corporation, November 2018: Guidance Note 6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources https://www.ifc.org/wps/wcm/connect/5e0f3c0c-0aa4-4290-a0f8-4490b61de245/GN6_English_June-27-2019.pdf?MOD=AJPERES&CVID=mRQZva

• IPIECA/IOGP, 2016: Biodiversity and ecosystem services fundamentals - Guidance document for the oil and gas industry [http://www.ipieca.org/media/1256/bes_fundamentals_2016_05.pdf](http://www.ipieca.org/media/1256/bes_fundamentals_2016_05.pdf)


Air emissions


Materials management


 Decommissioning

