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Introduction

This volume is part of Appendix B of [draft] IFRS S2 Climate-related Disclosures and is an integral part of that [draft] Standard. It has the same authority as the other parts of that [draft] Standard.

This volume sets out the requirements for identifying, measuring and disclosing information related to an entity’s significant climate-related risks and opportunities that are associated with specific business models, economic activities and other common features that characterise participation in this industry.

The industry-based disclosure requirements are derived from SASB Standards (see paragraphs B10–B12 of [Draft] IFRS S2 Climate-related Disclosures). Amendments to the SASB Standards, described in paragraph B11, are marked up for ease of reference. New text is underlined and deleted text is struck through. The metric codes used in SASB Standards have also been included, where applicable, for ease of reference. For additional context regarding the industry-based disclosure requirements contained in this volume, including structure and terminology, application and illustrative examples, refer to Appendix B paragraphs B3–B17.
Oil & Gas – Services

Industry Description

Oil and gas services companies provide support services, manufacture equipment, or are contract drillers for oil and natural gas exploration and production (E&P) companies. The drilling and drilling-support segment comprises companies that drill for oil and natural gas on-shore and off-shore on a contract basis. Companies in this segment may also manufacture jack-up rigs, semisubmersible rigs, and drill ships. Companies in the oilfield services segment manufacture equipment that is used in the extraction, storage, and transportation of oil and natural gas. They also provide support services such as seismic surveying, equipment rental, well cementing, and well monitoring. These services are commonly provided on a contractual basis, and the customer will purchase or lease the materials and equipment from the service provider. Service companies may also provide personnel or subject matter expertise as part of their scope of service. The contractual relationship between oil and gas services companies and their customers plays a significant role in determining the material impacts of their sustainability performance. Besides the rates charged, companies compete on the basis of their operational and safety performance, technology and process offerings, and reputation.

Sustainability Disclosure Topics & Metrics

Table 1. Sustainability Disclosure Topics & Metrics

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>METRIC</th>
<th>CATEGORY</th>
<th>UNIT OF MEASURE</th>
<th>CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissions Reduction Services &amp; Fuels Management</td>
<td>Total fuel consumed, percentage renewable, percentage used in: (1) on-road equipment and vehicles and (2) off-road equipment</td>
<td>Quantitative</td>
<td>Gigajoules (GJ), Percentage (%)</td>
<td>EM-SV-110a.1</td>
</tr>
<tr>
<td></td>
<td>Discussion of strategy or plans to address air emissions-related risks, opportunities, and impacts</td>
<td>Discussion and Analysis</td>
<td>n/a</td>
<td>EM-SV-110a.2</td>
</tr>
<tr>
<td></td>
<td>Percentage of engines in service that meet Tier 4 compliance with highest level of emissions standards for non-road diesel engine emissions</td>
<td>Quantitative</td>
<td>Percentage (%)</td>
<td>EM-SV-110a.3</td>
</tr>
<tr>
<td>Water Management Services</td>
<td>(1) Total volume of fresh water handled in operations, (2) percentage recycled</td>
<td>Quantitative</td>
<td>Thousand cubic meters (m³), Percentage (%)</td>
<td>EM-SV-140a.1</td>
</tr>
<tr>
<td></td>
<td>Discussion of strategy or plans to address water consumption and disposal-related risks, opportunities, and impacts</td>
<td>Discussion and Analysis</td>
<td>n/a</td>
<td>EM-SV-140a.2</td>
</tr>
</tbody>
</table>
### Table 2. Activity Metrics

<table>
<thead>
<tr>
<th>ACTIVITY METRIC</th>
<th>CATEGORY</th>
<th>UNIT OF MEASURE</th>
<th>CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of active rig sites</td>
<td>Quantitative</td>
<td>Number</td>
<td>EM-SV-000.A</td>
</tr>
<tr>
<td>Number of active well sites</td>
<td>Quantitative</td>
<td>Number</td>
<td>EM-SV-000.B</td>
</tr>
<tr>
<td>Total amount of drilling performed</td>
<td>Quantitative</td>
<td>Meters (m)</td>
<td>EM-SV-000.C</td>
</tr>
<tr>
<td>Total number of hours worked by all employees</td>
<td>Quantitative</td>
<td>Hours</td>
<td>EM-SV-000.D</td>
</tr>
</tbody>
</table>

**Note to EM-SV-000.A** – Rigs that are on location and involved in drilling, completions, cementing, fracturing, decommissioning etc., are considered active. Rigs that are in transit from one location to another, or are otherwise idled, are inactive.

**Note to EM-SV-000.B** – The number of well sites for which the entity has provided or is providing (on an ongoing basis) drilling, completion, fracturing, and/or decommissioning services.
Emissions Reduction Services & Fuels Management

Topic Summary

While direct greenhouse gas (GHG) emissions and associated regulatory risks are relatively low for oil and gas services providers relative to other industries, emissions from the operations of their customers—the oil and gas exploration and production (E&P) companies—can be significant. Emissions include GHGs that can contribute to climate change as well as other air pollutants that can have significant localized human health and environmental impacts. Increasing regulation and high costs of fuels associated with these emissions present substantial risk to E&P companies. This is driving companies to seek ways to lower their emissions, including converting pumps and engines to run on natural gas instead of diesel fuel. Oil and gas services companies compete for contracts with E&P companies partly on the basis of providing cutting-edge, efficient technologies that can help customers reduce costs and improve process efficiencies. Services companies can gain a competitive advantage and protect their revenues and market share by providing customers with services and equipment that reduce the emissions and fuel consumption of E&P activities, and by capturing saleable gas that may otherwise be flared or escape through leaks.

Metrics

EM-SV-110a.1. Total fuel consumed, percentage renewable, percentage used in: (1) on-road equipment and vehicles and (2) off-road equipment

1 The entity shall disclose total fuel consumed from all sources as an aggregate figure, in gigajoules (GJ).

1.1 The calculation methodology for fuel consumed shall be based on actual fuel consumed as opposed to design parameters.

1.2 Acceptable calculation methodologies for fuel consumed include, but are not limited to, methodologies based on:

1.2.1 Adding fuel purchases made during the reporting period to beginning inventory at the start of the reporting period, less any fuel inventory at the end of the reporting period

1.2.2 Tracking fuel consumed by vehicles

1.2.3 Tracking fuel expenses

2 The entity shall disclose the percentage of the total amount of fuel consumed from all sources that is renewable.

2.1 Renewable fuel is generally defined by the U.S. Renewable Fuel Standard (U.S. 40 CFR 80.1401) as fuel that meets all of the following requirements:

2.1.1 Produced from renewable biomass;

2.1.2 Used to replace or reduce the quantity of fossil fuel present in a transportation fuel, heating oil, or jet fuel; and
2.1.3 Achieved net has lifecycle greenhouse gas (GHG) emissions reduction on a lifecycle basis that are at least 20 percent less than baseline lifecycle GHG emissions, unless the fuel is exempt from this requirement pursuant to U.S. 40 CFR 80.1403.

2.2 The entity shall disclose the standard or regulation used to determine if a fuel is renewable.

The scope of renewable fuel includes fuel that qualifies for Renewable Identification Numbers (RINs) under the U.S. Renewable Fuel Standard.

2.3 The percentage shall be calculated as the amount of renewable fuel consumed by the entity's fleet vehicles (in GJ) divided by the total amount of fuel consumed by the entity's fleet vehicles (in GJ).

3 The entity shall disclose the percentage of total fuel consumed by (1) on-road, mobile equipment and vehicles and (2) off-road equipment, including stationary rigs, generators, and mounted equipment.

4 The scope of disclosure includes only fuel consumed by entities owned or controlled by the organization.

4.1 The scope excludes non-fuel energy sources such as purchased electricity and purchased steam.

4.2 The scope of disclosure includes combustion sources owned and/or operated by the entity, regardless of which entity bears the cost of fuel and/or considers greenhouse gas (GHG) emissions from these sources to be part of its Scope 1 inventory.

5 In calculating energy consumption from fuels and biofuels, the entity shall use higher heating values (HHV), also known as gross calorific values (GCV), which are directly measured or taken from the Intergovernmental Panel on Climate Change, the U.S. Department of Energy, or the U.S. Energy Information Agency.

6 The entity shall apply conversion factors consistently for all data reported under this disclosure, such as the use of HHVs for fuel usage (including biofuels).

**EM-SV-110a.2. Discussion of strategy or plans to address air emissions-related risks, opportunities, and impacts**

1 The entity shall discuss its strategies or plans to address air-emissions related risks, opportunities, and impacts.

1.1 The scope of disclosure includes the entity's strategies, plans, and/or emissions reduction activities, such as whether they pertain differently to different business units, geographies, or emissions sources.

1.2 The scope of disclosure includes activities and investments required to achieve the plans and any risks or limiting factors that might affect achievement of the plans and/or targets.

1.3 The scope of disclosure includes the discussion of the demand for specific products, services, and technologies that reduce well and field operator's fuel consumption, emissions, and/or create other efficiencies, and its ability to meet this demand.
The entity shall discuss its short-term and long-term plans related to air quality management, where:

2.1 Short-term strategies may include fuel substitution (e.g., drop-in biodiesel), use of dual fuel equipment, or engine maintenance.

2.2 Long-term strategies may include alternative fuel equipment, process, or equipment redesigns and innovations, carbon capture, and storage.

The scope of disclosure shall include, but is not limited to emissions from the following specific sources:

3.1 Combustion emissions (e.g., fuel use in gas compression, power generation).

3.2 Flaring of hydrocarbons (e.g., in depressurizing, start-up/shut-down, well testing and well work-over).

3.3 Process emissions (e.g., vessel loading, tank storage, and flushing).

3.4 Venting of hydrocarbons, defined as the intentional (or designed), controlled release of gas to the atmosphere during normal operations.

3.5 Fugitive emissions of greenhouse gases (including equipment leaks).

3.6 Other non-routine events (e.g., gas releases or equipment maintenance).

The entity shall discuss risks and opportunities it may face relating to its ability to offer its customers services, technologies, or solutions that enhance energy efficiency and reduce air emissions, including of greenhouse gases.

**EM-SV-110a.3. Percentage of engines in service that comply with highest level of emissions standards for non-road diesel engine emissions**

1. The entity shall disclose the percentage of its non-road diesel engines that are in compliance with the U.S. Environmental Protection Agency’s (EPA) Tier 4 highest level of jurisdictional emissions standards for non-road diesel engines.

1.1 The scope of disclosure shall include new and in-use non-road diesel engines, including, but not limited to, those used in equipment, pumps, compressors, and generators.

2. The entity shall calculate the percentage as the new and in-use number of non-road diesel engines that are in full compliance with the Tier 4 highest level of jurisdictional emissions standards during the reporting period, divided by the total number of non-road diesel engines active during the reporting period, where:

2.1 An engine is considered in compliance with the Tier 4 emission standards if (1) it belongs to an engine family which has test results showing official emission results and deteriorated emission levels at or below these standards, and (2) the engine family has received a certificate of conformity from the EPA for that model year confirmation from the certifying or regulatory body indicating alignment with the standard used.
2.2 Engine families are defined as engine product lines that are expected to have similar emissions characteristics, as defined by U.S. CFR §1039.230.

2.3 The highest level of jurisdictional emissions standards represents the most stringent emissions requirements applicable to the jurisdiction in which its non-road diesel engines operate.

3 Engines that are exempt from the EPA rules jurisdictional standard, such as certain marine engines, shall be exempt for the purposes of this disclosure.

4 The scope of disclosure includes both U.S. and non-U.S. all operations, regardless of whether they are under EPA jurisdiction.

5 The scope of disclosure includes non-road diesel engines manufactured, owned, and/or operated by the entity, regardless of which entity bears the EPA compliance obligation.

6 The entity shall disclose the jurisdictional emission standard used in its disclosure, based on the jurisdiction in which its non-road diesel engines operate.
Water Management Services

Topic Summary

Oil and gas development often requires large quantities of water, exposing producers to the risk of reduced water availability, regulations limiting usage, or related cost increases, particularly in water-stressed regions. Producers also face risks and costs associated with wastewater disposal. As such, companies that provide these oil and gas producers with services have developed technologies and processes such as closed-loop water recycling systems to reduce customers’ water consumption and disposal costs. These offerings provide service companies the potential to gain market share and increase revenues, as management of drilling and wastewater can be a significant competitive factor for their customers.

Metrics

EM-SV-140a.1. (1) Total volume of fresh water handled in operations, (2) percentage recycled

1 The entity shall disclose the volume of fresh water, in thousands of cubic meters, handled in operations.

1.1 Handled water includes that which is transferred to the entity from a third party for the purpose of providing the entity’s contractual scope of service as well as that which is directly obtained and used by the entity in its operations.

1.2 Fresh water may be defined according to the local statutes and regulations where the entity operates. Where there is no regulatory definition, fresh water shall be considered to be water that has less than 1000 parts per million of dissolved solids per the U.S. Geological Survey.

1.3 Water obtained from a water utility in compliance with U.S. National Primary Drinking Water Regulations can be assumed to meet the definition of fresh water.

2 The entity shall disclose the percentage of water recycled as the volume recycled divided by the volume of fresh water handled.

3 Recycled water shall include the amount recycled in closed-loop and open-loop systems as well as recycled produced water or flowback.

3.1 Any volume of water reused multiple times shall be counted as recycled each time it is recycled and reused.

4 Produced water is defined, according to the U.S. Environmental Protection Agency (EPA), according to U.S. 40 CFR 435.41 as water (brine) brought up from the hydrocarbon bearing formation strata during the extraction of oil and gas and can include formation water, injection water, and any chemicals added downhole or during the oil/water separation process.

5 Flowback is defined, according to U.S. 40 CFR 60.5430a as the process of allowing fluids (including water) and entrained solids to flow from a well following a treatment, either in preparation for a subsequent phase of treatment or in preparation for cleanup and returning the well to production.
5.1 The term flowback also means the fluids and entrained solids that emerge from a well during the flowback process. The flowback period begins when material introduced into the well during the treatment returns to the surface following hydraulic fracturing or refracturing.

5.2 The flowback period ends when either the well is shut in and permanently disconnected from the flowback equipment or at the startup of production.

5.3 The flowback period includes the initial flowback stage and the separation flowback stage.

6 The scope is limited to operations for which the entity provides hydraulic fracturing, completion, drilling, and/or water management services [e.g., injection of produced water or flowback into a Class II injection well under the EPA’s Underground Injection Control (UIC) program or equivalent, water treatment for reuse in drilling or hydraulic fracturing, reduction of unwanted water in subsurface areas].

6.1 The scope includes, but is not limited to, water that is used in hydraulic fracturing fluids, drilling fluids, dust control, and drilling cement production.

EM-SV-140a.2. Discussion of strategy or plans to address water consumption and disposal-related risks, opportunities, and impacts

1 The entity shall discuss its strategy or plans to address water consumption and disposal-related risks, opportunities, and impacts.

1.1 The scope of disclosure shall include the entity’s strategies, plans, and/or reduction activities, including whether they pertain differently to different business units, geographies, or water sources.

1.2 The scope of disclosure includes the activities and investments by the entity that are required to achieve the plans and any risks or limiting factors that might affect achievement of the plans and/or targets.

2 The entity shall discuss demand for specific products, services, and technologies that offer well and field operators reduced water consumption, water recycling, and/or other water impact reductions, and its ability to meet this demand.

3 The entity shall discuss its short-term and long-term plans related to water management, where:

3.1 Short-term strategies may include adopting best practices in water recycling or water efficiency initiatives.

3.2 Long-term strategies may include process redesigns or technological innovations that lower withdrawal of fresh water in constrained regions, reduce excess water production from wells, provide new water treatment or recycling systems.

4 The scope of impact reductions may relate to the following specific areas of water consumption or disposal:

4.1 Hydraulic fracturing fluids
4.2 Drilling fluids
4.3 Dust control
4.4 Cement production
4.5 Produced water or flowback

The entity shall discuss risks and opportunities it may face relating to: being able to offer its customers services, technologies, or solutions that enhance water use efficiency, treatment and reuse, and reduce water consumption or wastewater production.