SASB STANDARDS

Now part of IFRS Foundation

Iron & Steel Producers

Sustainability Accounting Standard

EXTRACTIVES & MINERALS PROCESSING SECTOR

Sustainable Industry Classification System® (SICS®) EM-IS

Under Stewardship of the International Sustainability Standards Board

INDUSTRY STANDARD | VERSION 2023-12

IFRS Sustainability

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ABOUT THE SASB STANDARDS

As of August 2022, the International Sustainability Standards Board (ISSB) of the IFRS Foundation assumed responsibility for the SASB Standards. The ISSB has committed to maintain, enhance and evolve the SASB Standards and encourages preparers and investors to continue to use the SASB Standards.

IFRS S1 *General Requirements for Disclosure of Sustainability-related Financial Information* (IFRS S1) requires entities to refer to and consider the applicability of disclosure topics in the SASB Standards when identifying sustainability-related risks and opportunities that could reasonably be expected to affect an entity's prospects. Similarly, IFRS S1 requires entities to refer to and consider the applicability of metrics in the SASB Standards when determining what information to disclose regarding sustainability-related risks and opportunities.

In June 2023, the ISSB amended climate-related topics and metrics in the SASB Standards to align them with the industry-based guidance accompanying IFRS S2 *Climate-related Disclosures*. In December 2023, the ISSB amended the non-climate-related topics and metrics in connection with the International Applicability of SASB Standards project.

Effective Date

This version 2023-12 of the Standard is effective for all entities for annual periods beginning or after January 1, 2025. Early adoption is permitted for all entities.

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INTRODUCTION

Overview of SASB Standards

The SASB Standards are a set of 77 industry-specific sustainability accounting standards ("SASB Standards" or "Industry Standards"), categorised pursuant to the Sustainable Industry Classification System® (SICS®).

SASB Standards include:

1. **Industry descriptions** – which are intended to help entities identify applicable industry guidance by describing the business models, associated activities and other common features that characterise participation in the industry.

2. **Disclosure topics** – which describe specific sustainability-related risks or opportunities associated with the activities conducted by entities within a particular industry.

3. **Metrics** – which accompany disclosure topics and are designed to, either individually or as part of a set, provide useful information regarding an entity's performance for a specific disclosure topic.

4. **Technical protocols** – which provide guidance on definitions, scope, implementation and presentation of associated metrics.

5. **Activity metrics** – which quantify the scale of specific activities or operations by an entity and are intended for use in conjunction with the metrics referred to in point 3 to normalise data and facilitate comparison.

Entities using the SASB Standards as part of their implementation of ISSB Standards should consider the relevant ISSB application guidance.

For entities using the SASB Standards independently from ISSB Standards, the *SASB Standards Application Guidance* establishes guidance applicable to the use of all Industry Standards and is considered part of the Standards. Unless otherwise specified in the technical protocols contained in the Industry Standards, the guidance in the SASB Standards Application Guidance applies to the definitions, scope, implementation, compilation and presentation of the metrics in the Industry Standards.

Historically, the *SASB Conceptual Framework* set out the basic concepts, principles, definitions and objectives that guided the SASB Standards Board in its approach to setting standards for sustainability accounting.

Use of the Standards

SASB Standards are intended to aid entities in disclosing information about sustainability-related risks and opportunities that could reasonably be expected to affect the entity's cash flows, its access to finance or cost of capital over the short, medium or long term. An entity determines which Industry Standard(s) and which disclosure topics are relevant to its business, and which associated metrics to report. In general, an entity should use the SASB Standard specific to its primary industry as identified in SICS® . However, companies with substantial business in multiple SICS® industries should refer to and consider the applicability of the disclosure topics and associated metrics in additional SASB Standards.

The disclosure topics and associated metrics contained in this Standard have been identified as those that are likely to be useful to investors. However, the responsibility for making materiality judgements and determinations rests with the reporting entity.

Industry Description

The Iron & Steel Producers industry primarily consists of entities producing iron and steel in mills and foundries. The steel producers segment produces iron and steel products from its own mills. These products include flat-rolled sheets, tin plates, pipes, tubes, and products made of stainless steel, titanium and high alloy steels. Iron and steel foundries, which cast various products, typically purchase iron and steel from other entities. The industry also includes metal service centres and other metal merchant wholesalers, which distribute, import or export ferrous products. Though entities are developing alternative processes, steel production primarily relies on two primary methods: the basic oxygen furnace (BOF), which uses iron ore as an input, and the electric arc furnace (EAF), which uses scrap steel. Many entities in the industry operate on an international scale. Note: With a few exceptions, most entities do not mine their own ore to manufacture steel and iron products. There exists a separate standard for the Metals & Mining (EM-MM) industry.

SUSTAINABILITY DISCLOSURE TOPICS & METRICS

Table 1. Sustainability Disclosure Topics & Metrics

TOPIC	METRIC	CATEGORY	UNIT OF MEASURE	CODE
Greenhouse Gas Emissions	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Quantitative	Metric tonnes (t) CO_2-e, Percentage (%)	EM-IS-110a.1
	Discussion of long- and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Discussion and Analysis	n/a	EM-IS-110a.2
Air Quality	Air emissions of the following pollutants: (1) CO, (2) NO_x (excluding N_2O), (3) SO_x, (4) particulate matter (PM_{10}), (5) manganese (MnO), (6) lead (Pb), (7) volatile organic compounds (VOCs), and (8) polycyclic aromatic hydrocarbons (PAHs)	Quantitative	Metric tonnes (t)	EM-IS-120a.1
Energy Management	(1) Total energy consumed, (2) percentage grid electricity and (3) percentage renewable	Quantitative	Gigajoules (GJ), Percentage (%)	EM-IS-130a.1
	(1) Total fuel consumed, (2) percentage coal, (3) percentage natural gas and (4) percentage renewable	Quantitative	Gigajoules (GJ), Percentage (%)	EM-IS-130a.2
Water Management	(1) Total water withdrawn, (2) total water consumed; percentage of each in regions with High or Extremely High Baseline Water Stress	Quantitative	Thousand cubic metres (m^3), Percentage (%)	EM-IS-140a.1
Waste Management	(1) Amount of waste generated, (2) percentage hazardous, (3) percentage recycled	Quantitative	Metric tonnes (t), Percentage (%)	EM-IS-150a.1
Workforce Health & Safety	(1) Total recordable incident rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR) for (a) direct employees and (b) contract employees	Quantitative	Rate	EM-IS-320a.1
Supply Chain Management	Discussion of the process for managing iron ore or coking coal sourcing risks arising from environmental and social issues	Discussion and Analysis	n/a	EM-IS-430a.1

Table 2. Activity Metrics

ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE
Raw steel production, percentage from: (1) basic oxygen furnace processes, (2) electric arc furnace processes	Quantitative	Metric tonnes (t), Percentage (%)	EM-IS-000.A
Total iron ore production[1]	Quantitative	Metric tonnes (t)	EM-IS-000.B
Total coking coal production[2]	Quantitative	Metric tonnes (t)	EM-IS-000.C

[1] Note to **EM-IS-000.B** - The scope of production includes iron ore consumed internally and that which is made available for sale.

[2] Note to **EM-IS-000.C** - The scope of production includes coking coal consumed internally and that which is made available for sale.

Greenhouse Gas Emissions

Topic Summary

Iron and steel production generates significant direct greenhouse gas (GHG) emissions, primarily carbon dioxide and methane, from production processes and on-site fuel combustion. Although technological improvements have reduced the GHG emissions per tonne of steel produced, steel production remains carbon-intensive compared to other industries. Regulatory efforts to reduce GHG emissions in response to the risks posed by climate change may result in additional regulatory compliance costs and risks for iron and steel entities because of climate change mitigation policies. Entities can achieve operational efficiencies through the cost-effective reduction of GHG emissions. Capturing such efficiencies can mitigate the potential financial effects of increased fuel costs from regulations that limit —or put a price on—GHG emissions.

Metrics

EM-IS-110a.1. Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations

1 The entity shall disclose its gross global Scope 1 greenhouse gas (GHG) emissions to the atmosphere of the seven GHGs covered under the Kyoto Protocol—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6), and nitrogen trifluoride (NF_3).

1.1 Emissions of all GHGs shall be consolidated and disclosed in metric tonnes of carbon dioxide equivalent (CO_2-e) and calculated in accordance with published 100-year time horizon global warming potential (GWP) values. To date, the preferred source for GWP values is the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (2014).

1.2 Gross emissions are GHGs emitted into the atmosphere before accounting for offsets, credits or other similar mechanisms that have reduced or compensated for emissions.

2 Scope 1 emissions are defined and shall be calculated according to the methodology contained in *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard* (GHG Protocol), Revised Edition, March 2004, published by the World Resources Institute and the World Business Council on Sustainable Development (WRI/WBCSD).

2.1 These emissions include direct emissions of GHGs from stationary or mobile sources that include production facilities, office buildings and product transportation (marine, road and rail).

2.2 Acceptable calculation methodologies include those that conform to the GHG Protocol as the base reference, but provide additional guidance, such as industry- or region-specific guidance. Examples include:

2.2.1 *GHG Reporting Guidance for the Aerospace Industry* published by the International Aerospace Environmental Group (IAEG)

2.2.2 *Greenhouse Gas Inventory Guidance: Direct Emissions from Stationary Combustion Sources* published by the U.S. Environmental Protection Agency (EPA)

2.2.3 India GHG Inventory Program

2.2.4 ISO 14064-1

2.2.5 *Petroleum Industry Guidelines for reporting GHG emissions*, 2nd edition, 2011, published by Ipieca

2.2.6 *Protocol for the quantification of greenhouse gas emissions from waste management activities* published by Entreprises pour l'Environnement (EpE)

2.3 GHG emission data shall be consolidated according to the approach with which the entity consolidates its financial reporting data, which is generally aligned with the 'financial control' approach defined by the GHG Protocol and the approach provided by the Climate Disclosure Standards Board (CDSB) that is described in REQ-07, 'Organisational boundary,' of the *CDSB Framework for reporting environmental and social information.*

3 The entity shall disclose the percentage of its gross global Scope 1 GHG emissions covered under an emissions-limiting regulation or programme intended to limit or reduce emissions directly, such as cap-and-trade schemes, carbon tax/fee systems, and other emissions control (for example, command-and-control approach) and permit-based mechanisms.

3.1 Examples of emissions-limiting regulations include:

3.1.1 California Cap-and-Trade (California Global Warming Solutions Act)

3.1.2 European Union Emissions Trading Scheme (EU ETS)

3.1.3 Quebec Cap-and-Trade (Quebec Environment Quality Act)

3.2 The percentage shall be calculated as the total amount of gross global Scope 1 GHG emissions (CO_2-e) covered under emissions-limiting regulations divided by the total amount of gross global Scope 1 GHG emissions (CO_2-e).

3.2.1 For emissions subject to more than one emissions-limiting regulation, the entity shall not account for those emissions more than once.

3.3 The scope of emissions-limiting regulations excludes emissions covered under voluntary emissions-limiting regulations (for example, voluntary trading systems), as well as reporting-based regulations.

4 The entity may discuss any change in its emissions from the previous reporting period, including whether the change was because of emissions reductions, divestment, acquisition, mergers, changes in output or changes in calculation methodology.

5 In the case that current reporting of GHG emissions to the CDP or other entity (for example, a national regulatory disclosure programme) differs in terms of the scope and consolidation approach used, the entity may disclose those emissions. However, primary disclosure shall be according to the guidelines described above.

6 The entity may discuss the calculation methodology for its emissions disclosure, such as if data are from continuous emissions monitoring systems (CEMS), engineering calculations or mass balance calculations.

EM-IS-110a.2. Discussion of long- and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets

1 The entity shall discuss its long- and short-term strategy or plan to manage its Scope 1 greenhouse gas (GHG) emissions.

1.1 Scope 1 emissions are defined and shall be calculated according to the methodology contained in *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard* (GHG Protocol), Revised Edition, March 2004, published by the World Resources Institute and the World Business Council on Sustainable Development (WRI/WBCSD).

1.2 The scope of GHG emissions includes the seven GHGs covered under the Kyoto Protocol—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6), and nitrogen trifluoride (NF_3).

2 The entity shall discuss its emission reduction target(s) and analyse its performance against the target(s), including, if relevant:

2.1 The scope of the emission reduction target (for example, the percentage of total emissions to which the target is applicable);

2.2 Whether the target is absolute or intensity-based, and the metric denominator if it is an intensity-based target;

2.3 The percentage reduction against the base year, with the base year representing the first year against which emissions are evaluated towards the achievement of the target;

2.4 The time lines for the reduction activity, including the start year, the target year and the base year;

2.5 The mechanism(s) for achieving the target; and

2.6 Any circumstances in which the target or base year emissions have been, or may be, recalculated retrospectively or the target or base year has been reset.

3 The entity shall discuss the activities and investments required to achieve the plans or targets, and any risks or limiting factors that might affect achievement of the plans or targets.

4 The entity shall discuss the scope of its strategies, plans or reduction targets, such as whether they pertain differently to different business units, geographies or emissions sources.

5 The entity shall discuss whether its strategies, plans, or reduction targets are related to, or associated with, emissions limiting or emissions reporting-based programmes or regulations (for example, the EU Emissions Trading Scheme, Quebec Cap-and-Trade System, California Cap-and-Trade Program), including regional, national, international or sectoral programmes.

6 Disclosure of strategies, plans or reduction targets shall be limited to activities that were ongoing (active) or reached completion during the reporting period.

Air Quality

Topic Summary

Iron and steel production typically generates criteria air pollutants, volatile organic compounds (VOCs) and hazardous air pollutants, which can have significant localised public health impacts. Of particular concern are sulphur oxides, nitrogen dioxide, lead, carbon monoxide and manganese, as well as particles such as soot and dust, released during production. Technological innovation and continuous improvements in steel-making processes have reduced air pollutants significantly from the Iron & Steel Producers industry. However, air pollutants remain a concern because of increased regulatory and public concern about air pollution, as well as expansion of steel production in emerging markets. In emerging markets, regulatory efforts to curb air pollution may constrain iron and steel production. Active management of facility emissions through industry best practices implementation across global operations can facilitate the transition to sustainable steel production, reducing costs and potentially enhancing operational efficiency.

Metrics

EM-IS-120a.1. Air emissions of the following pollutants: (1) CO, (2) NO_x (excluding N_2O), (3) SO_x, (4) particulate matter (PM_{10}), (5) manganese (MnO), (6) lead (Pb), (7) volatile organic compounds (VOCs), and (8) polycyclic aromatic hydrocarbons (PAHs)

1 The entity shall disclose its emissions of air pollutants, in metric tonnes per pollutant, released into the atmosphere.

1.1 The scope of the disclosure includes air pollutants associated with the entity's direct air emissions resulting from all the entity's activities and sources of emissions, which may include stationary and mobile sources, production facilities, office buildings and transportation fleets.

2 The entity shall disclose its emissions of (1) carbon monoxide, reported as CO.

3 The entity shall disclose its emissions of (2) oxides of nitrogen (NO_X), reported as NO_X.

3.1 The scope of NO_X includes NO and NO_2 but excludes N_2O.

4 The entity shall disclose its emissions of (3) oxides of sulphur (SO_X), reported as SO_X.

4.1 The scope of SO_X includes SO_2 and SO_3

5 The entity shall disclose its emissions of (4) particulate matter 10 micrometres or less in diameter (PM_{10}), reported as PM_{10}.

5.1 PM_{10} is defined as any airborne finely divided solid or liquid material with an aerodynamic diameter less than or equal to a nominal 10 micrometres.

6 The entity shall disclose its emissions of (5) oxides of manganese, reported as MnO.

7 The entity shall disclose its emissions of (6) lead and lead compounds, reported as Pb.

8 The entity shall disclose its emissions of (7) non-methane volatile organic compounds (VOCs).

8.1 VOCs are defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate and methane, that participates in atmospheric photochemical reactions, except those designated under applicable jurisdictional law or regulation as having negligible photochemical reactivity.

8.2 If applicable regulatory definitions of VOCs conflict with this definition, the entity may define VOCs in accordance with the applicable jurisdictional legal or regulatory definition. In this case, the entity shall identify the source of the definition.

9 The entity shall disclose its emissions of (8) polycyclic aromatic hydrocarbons (PAHs).

9.1 PAHs are a large group of organic compounds containing two or more fused aromatic (benzene) rings. A main source of emission is the incomplete combustion or pyrolysis of organic material.

9.2 PAHs include those listed in World Health Organization, *Human Health Effects of Polycyclic Aromatic Hydrocarbons as Ambient Air Pollutants: Report of the Working Group on Polycyclic Aromatic Hydrocarbons of the Joint Task Force on the Health Aspects of Air Pollution*, 2021.

10 The entity may discuss the calculation method for its emissions disclosure, such as whether data is from continuous emissions monitoring systems (CEMS), engineering calculations or mass balance calculations.

Energy Management

Topic Summary

The production of steel requires significant energy, sourced primarily from the direct fossil fuel combustion as well as energy purchased from the grid. Energy-intense production has implications for climate change, and electricity purchases from the grid can result in indirect Scope 2 emissions. The choice between various production processes—electric arc furnaces and integrated basic oxygen furnaces—can influence whether an entity uses fossil fuels or purchases electricity. This decision, together with the choice between using coal versus natural gas or on-site versus grid-sourced electricity, may influence both the costs and reliability of energy supply. Affordable, easily accessible and reliable energy is an important industry competitive factor. Energy costs account for a substantial portion of iron and steel manufacturing costs. How an iron and steel entity manages its energy efficiency, its reliance on various types of energy and associated sustainability risks, and its ability to access alternative sources of energy can influence its profitability.

Metrics

EM-IS-130a.1. (1) Total energy consumed, (2) percentage grid electricity and (3) percentage renewable

1 The entity shall disclose (1) the total amount of energy it consumed as an aggregate figure, in gigajoules (GJ).

1.1 The scope of energy consumption includes energy from all sources, including energy purchased from external sources and energy produced by the entity itself (self-generated). For example, direct fuel usage, purchased electricity, and heating, cooling and steam energy are all included within the scope of energy consumption.

1.2 The scope of energy consumption includes only energy directly consumed by the entity during the reporting period.

1.3 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 measured directly or taken from the Intergovernmental Panel on Climate Change (IPCC).

2 The entity shall disclose (2) the percentage of energy it consumed that was supplied from grid electricity.

2.1 The percentage shall be calculated as purchased grid electricity consumption divided by total energy consumption.

3 The entity shall disclose (3) the percentage of energy it consumed that was renewable energy.

3.1 Renewable energy is defined as energy from sources that are replenished at a rate greater than or equal to their rate of depletion, such as geothermal, wind, solar, hydro and biomass.

3.2 The percentage shall be calculated as renewable energy consumption divided by total energy consumption.

3.3 The scope of renewable energy includes renewable fuel the entity consumed, renewable energy the entity directly produced and renewable energy the entity purchased, if purchased through a renewable power purchase agreement (PPA) that explicitly includes renewable energy certificates (RECs) or Guarantees of Origin (GOs), a Green-e Energy Certified utility or supplier programme, or other green power products that explicitly include RECs or GOs, or for which Green-e Energy Certified RECs are paired with grid electricity.

3.3.1 For any renewable electricity generated on-site, any RECs and GOs shall be retained (not sold) and retired or cancelled on behalf of the entity for the entity to claim them as renewable energy.

3.3.2 For renewable PPAs and green power products, the agreement shall explicitly include and convey that RECs and GOs be retained or replaced and retired or cancelled on behalf of the entity for the entity to claim them as renewable energy.

3.3.3 The renewable portion of the electricity grid mix that is outside of the control or influence of the entity is excluded from the scope of renewable energy.

3.4 For the purposes of this disclosure, the scope of renewable energy from biomass sources is limited to materials certified to a third-party standard (for example, Forest Stewardship Council, Sustainable Forest Initiative, Programme for the Endorsement of Forest Certification or American Tree Farm System), materials considered eligible sources of supply according to the *Green-e Framework for Renewable Energy Certification, Version 1.0* (2017) or Green-e regional standards, or materials eligible for an applicable state renewable portfolio standard.

4 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) and conversion of kilowatt hours (kWh) to GJ (for energy data including electricity from solar or wind energy).

EM-IS-130a.2. (1) Total fuel consumed, (2) percentage coal, (3) percentage natural gas and (4) percentage renewable

1 The entity shall disclose (1) the total amount of energy consumed 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 may include 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 (2) the percentage of fuel consumed that was coal.

2.1 The percentage shall be calculated as the amount of coal consumed (in GJ) divided by the total amount of fuel consumed (in GJ).

2.2 The scope of coal consumed may include thermal coal, metallurgical coal, coke and coke breeze.

3 The entity shall disclose (3) the percentage of fuel consumed that was natural gas.

3.1 The percentage shall be calculated as the amount of natural gas consumed (in GJ) divided by the total amount of fuel consumed (in GJ).

4 The entity shall disclose (4) the percentage of fuel consumed that was renewable fuel.

4.1 Renewable fuel generally is defined as fuel that meets all the following requirements:

4.1.1 Produced from renewable biomass;

4.1.2 Used to replace or reduce the quantity of fossil fuel present in a transportation fuel, heating oil or jet fuel; and

4.1.3 Achieved net greenhouse gas (GHG) emissions reduction on a lifecycle basis.

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

4.3 The percentage shall be calculated as the amount of renewable fuel consumed (in GJ) divided by the total amount of fuel consumed (in GJ).

5 In calculating energy consumption from fuels, 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.

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

Water Management

Topic Summary

Steel production requires substantial volumes of water. Entities face increasing operational, regulatory and reputational risks associated with water scarcity, costs of water acquisition, regulations on effluents or amount of water used, and competition with local communities and other industries for limited water resources. These risks are particularly likely to affect regions where water is scarce, resulting in water availability constraints and price volatility. Entities unable to secure a stable water supply could face production disruptions, while rising water prices could directly increase production costs. Consequently, entities adopting technologies and processes to decrease reduce water consumption may reduce operating risks and costs by mitigating the operational impacts of regulatory changes, water supply shortages and community-related disruptions.

Metrics

EM-IS-140a.1. (1) Total water withdrawn, (2) total water consumed; percentage of each in regions with High or Extremely High Baseline Water Stress

1 The entity shall disclose the amount of water, in thousands of cubic metres, withdrawn from all sources.

1.1 Water sources include surface water (including water from wetlands, rivers, lakes and oceans), groundwater, rainwater collected directly and stored by the entity, and water and wastewater obtained from municipal water supplies, water utilities or other entities.

2 The entity may disclose portions of its supply by source if, for example, significant portions of withdrawals are from non-freshwater sources.

2.1 Fresh water may be defined according to the local laws and regulations where the entity operates. If no legal definition exists, fresh water shall be considered to be water that has less than 1,000 parts per million of dissolved solids.

2.2 Water obtained from a water utility in compliance with jurisdictional drinking water regulations can be assumed to meet the definition of fresh water.

3 The entity shall disclose the amount of water, in thousands of cubic metres, consumed in its operations.

3.1 Water consumption is defined as:

3.1.1 Water that evaporates during withdrawal, use and discharge

3.1.2 Water that is directly or indirectly incorporated into the entity's product or service

3.1.3 Water that does not otherwise return to the same catchment area from which it was withdrawn, such as water returned to another catchment area or the sea

4 The entity shall analyse all its operations for water risks and identify activities that withdraw and consume water in locations with High (40–80%) or Extremely High (>80%) Baseline Water Stress as classified by the World Resources Institute's (WRI) Water Risk Atlas tool, Aqueduct.

5 The entity shall disclose water withdrawn in locations with High or Extremely High Baseline Water Stress as a percentage of the total water withdrawn.

6 The entity shall disclose water consumed in locations with High or Extremely High Baseline Water Stress as a percentage of the total water consumed.

Waste Management

Topic Summary

Although waste reclamation rates in steel production are high, the industry generates significant quantities of hazardous wastes. Slag, dusts and sludges constitute the three main industry waste types. These by-products often are recycled internally or sold to other industries. However, process wastes such as electric arc furnace dust, which may be regulated as a hazardous material because of its heavy metal content, can have significant environmental and human health impacts, present a regulatory risk, and result in additional operating costs for entities. Risks related to the long-term impacts of waste disposal may result in significant costs, including those associated with monitoring and managing contaminated off-site disposal properties, for which jurisdictional authorities may hold iron and steel producers responsible for remediation and restoration activities. Entities that reduce waste streams, hazardous waste streams in particular, and recycle or sell non-hazardous by-products, could mitigate regulatory risks and reduce costs while increasing revenues.

Metrics

EM-IS-150a.1. (1) Amount of waste generated, (2) percentage hazardous, (3) percentage recycled

1 The entity shall disclose (1) the weight of waste generated, in metric tonnes.

1.1 Waste is defined as material for which the entity has no further use and that is discarded or released to the environment by the entity.

1.2 The scope includes slags, dusts, sludges, scrap steel, reject coal, used oil and other solid wastes that meet the above definition.

1.3 The scope excludes gaseous wastes.

2 The entity shall disclose (2) the percentage of hazardous waste generated, by weight.

2.1 The percentage of hazardous waste shall be calculated as the weight of waste that meets the definition of hazardous waste divided by the total weight of waste material.

2.2 Hazardous wastes are defined in accordance with the applicable jurisdictional legal or regulatory framework where the waste was generated.

2.2.1 The entity may use the United Nations Environmental Programme (UNEP*) Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal* (Basel Convention) for the purposes of defining hazardous waste or recycled hazardous waste for operations located in jurisdictions that lack applicable legal or regulatory definitions.

3 The entity shall disclose (3) the percentage of waste generated, by weight, that has been recycled.

3.1 The percentage recycled shall be calculated as the weight of waste material reused plus the weight recycled or remanufactured (through treatment or processing) by the entity, plus the amount sent externally for further recycling, divided by the total weight of waste material, such that:

3.1.1 reused materials are defined as those recovered products or components of products used for the same purpose for which they were conceived;

3.1.2 recycled and remanufactured materials are defined as waste materials reprocessed or treated through production or manufacturing processes and made into a final product or made into a component to be integrated into a product;

3.1.3 the scope of recycled and remanufactured products includes primary recycled materials, co-products (outputs of equal value to primary recycled materials) and by-products (outputs of lesser value to primary recycled materials);

3.1.4 portions of products and materials discarded in landfills are not considered recycled; only the portions of products directly incorporated into new products, co-products or by-products shall be included in the percentage recycled; and

3.1.5 materials sent for further recycling include those materials which are transferred to a third party for the purpose of reuse, recycling or refurbishment.

3.2 Materials incinerated, including for energy recovery, shall not be considered within the scope of recycled materials.

3.2.1 Energy recovery is defined as the use of combustible waste to generate energy through direct incineration, with or without other waste, but with recovery of the heat.

3.2.2 The entity may separately disclose the percentage of hazardous waste generated that was incinerated.

4 The entity shall disclose the frameworks used to define waste, hazardous waste and recycled waste, and the relevant quantities and percentages defined in accordance with each applicable framework.

Workforce Health & Safety

Topic Summary

Iron and steel production processes can present significant risks to employees and contractors working in iron and steel plants. Given the high temperatures and heavy machinery involved, worker injuries and fatalities are a matter of serious concern to iron and steel producers. Given the hazardous work environment, the industry has relatively high fatality rates requiring a strong safety culture and comprehensive health and safety policies. Although accident rates in the industry are in decline, worker injuries and fatalities can result in regulatory penalties, negative publicity, low worker morale and productivity, and increased healthcare and compensation costs.

Metrics

EM-IS-320a.1. (1) Total recordable incident rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR) for (a) direct employees and (b) contract employees

1 The entity shall disclose (1) its total recordable incident rate (TRIR) for work-related injuries and illnesses.

1.1 An injury or illness is considered a recordable incident if it results in death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, or loss of consciousness. Additionally, a significant injury or illness diagnosed by a physician or other licensed health care professional is considered a recordable incident, even if it does not result in death, days away from work, restricted work or job transfer, medical treatment beyond first aid, or loss of consciousness.

1.1.1 First aid is defined as emergency care or treatment for an ill or injured person before regular medical aid can be provided.

1.1.2 The entity may use applicable jurisdictional criteria for definitions of a recordable incident and a non-recordable incident such as first aid. The entity shall disclose the legal, regulatory or industry framework used as the source for these criteria and definitions.

2 The entity shall disclose (2) its fatality rate for work-related fatalities.

3 The entity shall disclose (3) its near miss frequency rate (NMFR) for work-related near misses.

3.1 A near miss is defined as an unplanned or uncontrolled event or chain of events that has not resulted in a recordable injury, illness, physical damage, or environmental damage, but had the potential to do so in other circumstances.

3.2 The entity may disclose its process for classifying, identifying and reporting near misses.

4 All disclosed rates shall be calculated as: (statistic count × 200,000) / total number of hours worked by all employees in the year reported.

4.1 The ‘200,000’ in the rate calculation represents the total number of hours 100 full-time workers working 40 hours per week for 50 weeks per year can provide annually.

5 The scope of the disclosure includes work-related incidents only.

5.1 Work-related incidents are injuries and illnesses resulting from events or exposures in the work environment.

5.2 The work environment is the establishment and other locations where one or more employees are working or are present as a condition of their employment.

5.3 The work environment includes not only physical locations, but also the equipment or materials used by the employee during the course of work.

5.4 Incidents that occur while an employee is travelling are work-related if, at the time of the injury or illness, the employee was engaged in work activities in the interest of the employer.

5.5 A work-related incident must be a new case, not a previously recorded injury or illness being updated.

6 The entity shall disclose the rates for each of these employee categories:

6.1 Direct employees, defined as individuals on the entity's payroll, whether they are full-time, short service, part-time, executive, labour, salary, seasonal, migrant or hourly employees.

6.2 Contract employees, defined as individuals who are not on the entity's payroll, but whom the entity supervises or manages, including independent contractors and those employed by third parties (for example, temp agencies and labour brokers).

7 The scope of the disclosure includes all employees regardless of employee location or type of employment.

Supply Chain Management

Topic Summary

Iron ore and coal are critical raw material inputs to the steel production process. Iron ore mining and coal production are resource-intensive processes. Mineral extraction often has substantial environmental and social impacts adversely affecting local communities, workers and ecosystems. Community protests, legal or regulatory action, or increased regulatory compliance costs or penalties can disrupt mining operations. Iron and steel entities could face supply disruptions as a result, or in some cases, also may be subject to regulatory penalties associated with the environmental or social impact of the mining entity supplier. Minimising such risks through appropriate supplier screening, monitoring and engagement, iron and steel producers may manage their direct critical raw materials suppliers proactively to ensure they are not engaged in illegal or otherwise environmentally or socially damaging practices.

Metrics

EM-IS-430a.1. Discussion of the process for managing iron ore or coking coal sourcing risks arising from environmental and social issues

1 The entity shall discuss its policies and procedures for managing environmental and social risks that may affect sourcing that are present in its iron ore or coking coal supply chain.

1.1 Discussion shall include any existing or projected risks or constraints in obtaining raw materials (for example, iron ore or coking coal) within the supply chain, including those related to restricted/limited availability, political situations, local labour conditions, natural disasters, climate change or regulations.

1.2 The scope of disclosure may include description of the use of screening, codes of conduct, audits and certifications.

2 If audits are discussed, the entity may disclose whether audits are internal (first party), independent (third party) or administered by peers (for example, trade organisations).

SASB STANDARDS

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