SASB STANDARDS

Now part of IFRS Foundation

Industrial Machinery & Goods

Sustainability Accounting Standard

RESOURCE TRANSFORMATION SECTOR

Sustainable Industry Classification System® (SICS®) RT-IG

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

Industrial machinery and goods industry entities manufacture equipment for a variety of industries including construction, agriculture, energy, utility, mining, manufacturing, automotive and transportation. Products include engines, earth-moving equipment, trucks, tractors, ships, industrial pumps, locomotives and turbines. Machinery manufacturers use large amounts of raw materials for production, including steel, plastics, rubber, paints and glass. Manufacturers also may machine and cast parts before final assembly. Demand in the industry is tied closely to industrial production, while government emissions standards and customer demand are encouraging innovations to improve energy efficiency and limit air emissions during product use.

SUSTAINABILITY DISCLOSURE TOPICS & METRICS

Table 1. Sustainability Disclosure Topics & Metrics

TOPIC	METRIC	CATEGORY	UNIT OF MEASURE	CODE
Energy Management	(1) Total energy consumed, (2) percentage grid electricity and (3) percentage renewable	Quantitative	Gigajoules (GJ), Percentage (%)	RT-IG-130a.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	RT-IG-320a.1
Fuel Economy & Emissions in Use-phase	Sales-weighted fleet fuel efficiency for medium- and heavy-duty vehicles	Quantitative	Litres per 100 tonne-kilometres	RT-IG-410a.1
	Sales-weighted fuel efficiency for non-road equipment	Quantitative	Litres per hour	RT-IG-410a.2
	Sales-weighted fuel efficiency for stationary generators	Quantitative	Kilojoules per litre	RT-IG-410a.3
	Sales-weighted emissions of (1) nitrogen oxides (NO_x) and (2) particulate matter (PM) for: (a) marine diesel engines, (b) locomotive diesel engines, (c) on-road medium- and heavy-duty engines and (d) other non-road diesel engines [1]	Quantitative	Grammes per kilojoule	RT-IG-410a.4
Materials Sourcing	Description of the management of risks associated with the use of critical materials	Discussion and Analysis	n/a	RT-IG-440a.1
Remanufacturing Design & Services	Revenue from remanufactured products and remanufacturing services [2]	Quantitative	Presentation currency	RT-IG-440b.1

Table 2. Activity Metrics

ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE
Number of units produced by product category[3]	Quantitative	Number	RT-IG-000.A
Number of employees	Quantitative	Number	RT-IG-000.B

[1] Note to **RT-IG-410a.4** – The entity shall discuss how it manages fleet fuel economy and emissions risks and opportunities.

[2] Note to **RT-IG-440b.1** – The disclosure shall include a discussion of efforts to obtain end-of-life products and parts for remanufacture.

[3] Note to **RT-IG-000.A** – The minimum disclosure should indicate the number of units produced for these product categories: (1) vehicles and agricultural and construction equipment, (2) engines and power generation equipment, and (3) parts and components.

Energy Management

Topic Summary

Energy is a critical input in industrial machinery manufacturing. Purchased electricity is the largest share of energy expenditure in the industry, followed by purchased fuels. The type of energy used, amount consumed and energy management strategies depend on the type of products manufactured. Including the use of electricity generated on site, grid-sourced electricity and alternative energy, an entity's energy mix can influence the cost and reliability of energy supply and, ultimately, affect the entity's cost structure and regulatory risk.

Metrics

RT-IG-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, heating, cooling and steam energy all are 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 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 jurisdictional 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).

Workforce Health & Safety

Topic Summary

Employees in industrial machinery manufacturing facilities face health and safety risks from exposure to heavy machinery, moving equipment and electrical hazards, among others. Creating an effective safety culture is critical to mitigate safety incidents proactively, which may result in reduced healthcare costs, litigation and work disruption. By implementing strong safety protocols, including incident reporting and investigation, and promoting a culture of safety, entities can minimise safety-related expenses and potentially improve productivity in the long term.

Metrics

RT-IG-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 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 x 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 categories of employee:

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.

Fuel Economy & Emissions in Use-phase

Topic Summary

Many of the Industrial Machinery & Goods industry's products are powered by fossil fuels and release greenhouse gases (GHGs) and other air emissions during use. Customer preferences for improved fuel economy combined with regulations restricting emissions are increasing the demand for energy-efficient and lower-emission products in the industry. As such, entities that develop products with these characteristics may capture expanding market share, reduce regulatory risk and improve brand value.

Metrics

RT-IG-410a.1. Sales-weighted fleet fuel efficiency for medium- and heavy-duty vehicles

1 The entity shall disclose its sales-weighted average fleet fuel efficiency for medium- and heavy-duty vehicles.

1.1 Fleet fuel efficiency is defined as the average fuel economy of its medium- and heavy-duty commercial vehicles, weighted by the number of each sold during the reporting period and measured in litres per 100 tonne-kilometres.

1.2 The scope of disclosure includes combination tractors (commonly known as semi-trucks or lorries), heavy-duty pickup trucks and vans, and vocational vehicles.

1.3 The scope of disclosure includes vehicles in the fleet that weigh a minimum of 3.5 metric tonnes or 8,500 pounds.

1.4 If fleet averages are calculated by model year for regulatory purposes, the entity shall use these performance data.

1.5 In the absence of regulatory guidance on calculating a fleet average, the entity shall calculate performance based on the fuel economy of vehicles sold during the reporting period, weighted by sales volume.

2 The entity shall disclose the sales-weighted fuel efficiency requirement for its medium- and heavy-duty vehicles pursuant to the entity's applicable jurisdictional heavy-duty vehicle fuel emissions standards or regulations.

3 If the entity operates in more than one jurisdiction, the entity shall disclose the standard or regulation used to determine if a fuel is renewable.

RT-IG-410a.2. Sales-weighted fuel efficiency for non-road equipment

1 The entity shall disclose its sales-weighted average fuel efficiency for its non-road equipment and vehicles.

1.1 Fuel efficiency is defined as the average fuel economy of its non-road equipment, weighted by the number of each unit sold during the reporting period and measured in litres of fuel consumed per hour of operation (litres per hour).

1.1.1 In calculating litres per hour, the entity shall use the model-rated fuel efficiency value for each piece of equipment if available.

1.1.2 If model-rated fuel efficiency values are not available, the entity shall calculate the litres operational efficiency for the equipment, assuming normal, reasonable operating conditions (for example, for load factor, speed and environmental conditions).

1.2 Non-road equipment may include excavators and other construction equipment, farm tractors and other agricultural equipment, heavy forklifts, airport ground service equipment, and utility equipment such as generators, pumps and compressors.

RT-IG-410a.3. Sales-weighted fuel efficiency for stationary generators

1 The entity shall disclose the sales-weighted average fuel efficiency of its stationary generators.

1.1 Sales-weighted fuel efficiency is the average fuel efficiency of stationary generators sold during the reporting period, measured in kilojoules per litre.

2 Sales-weighted fuel efficiency is calculated as the harmonic mean of design fuel efficiency in kilojoules per litre, in which:

2.1 The harmonic mean captures the average amount of fuel needed by each generator to produce a given amount of power.

2.2 The harmonic mean is the reciprocal of the average of the reciprocal values.

RT-IG-410a.4. Sales-weighted emissions of (1) nitrogen oxides (NO_x) and (2) particulate matter (PM) for: (a) marine diesel engines, (b) locomotive diesel engines, (c) on-road medium- and heavy-duty engines and (d) other non-road diesel engines

1 The entity shall disclose the sales-weighted average emissions of (1) nitrogen oxides (NO_x) and (2) particulate matter (PM) for each of these product categories: (a) marine diesel engines, (b) locomotive diesel engines, (c) on-road medium- and heavy-duty engines and (d) other non-road diesel engines.

1.1 Emissions are calculated as the average emissions of (1) NO_x and (2) PM for engines, weighted by the number of each sold during the reporting period and measured in grammes per kilojoule.

1.2 Marine diesel engines, locomotive diesel engines, on-road medium- and heavy-duty engines, and other non-road diesel engines shall be defined based on applicable jurisdictional laws or regulations.

1.2.1 Other non-road diesel engines may include: excavators and other construction equipment, farm tractors and other agricultural equipment, heavy forklifts, airport ground service equipment, and utility equipment such as generators, pumps and compressors.

1.3 The entity shall state the calculation method used to calculate emissions.

1.4 The entity may disclose if any products do not meet current emissions standards established in applicable jurisdictional laws or regulations.

2 The entity may discuss its progress towards, and readiness for, future jurisdictional emissions standards that could affect its products.

Note to **RT-IG-410a.4**

1 The entity shall discuss how it manages fleet fuel economy and emissions risks and opportunities.

2 Relevant aspects of the approach and strategy to discuss include improvements to existing products and technologies, the introduction of new technologies, research and development efforts into advanced technologies, and partnerships with peers, academic institutions or customers (including governmental customers).

Materials Sourcing

Topic Summary

Industrial machinery entities are exposed to supply chain risks when critical materials are used in products. Entities in the industry manufacture products using critical materials with few or no available substitutes, many of which are sourced in only a few countries, which may be subject to geopolitical uncertainty. Entities in this industry also face competition because of increasing global demand for these materials from other sectors, which may result in price increases and supply risks. Entities that limit the use of critical materials by using alternatives, as well as securing supply, may mitigate financial effects stemming from supply disruptions and volatile input prices.

Metrics

RT-IG-440a.1. Description of the management of risks associated with the use of critical materials

1 The entity shall describe how it manages the risks associated with the use of critical materials in its products, including physical limits on availability and access, changes in price, and regulatory and reputational risks, in which:

1.1 a critical material is defined as a material both essential in use and subject to the risk of supply restriction; and

1.2 examples of critical materials may include:

1.2.1 antimony, cobalt, fluorspar, gallium, germanium, graphite, indium, magnesium, niobium, tantalum and tungsten;

1.2.2 platinum group metals (platinum, palladium, iridium, rhodium, ruthenium and osmium); and

1.2.3 rare earth elements, which include yttrium, scandium, lanthanum and the lanthanides (cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium and lutetium).

2 The entity shall identify the critical materials that present a significant risk to its operations, the type of risks they represent and the strategies the entity uses to mitigate the risks.

2.1 Relevant strategies may include diversification of suppliers, stockpiling of materials, development or procurement of alternative and substitute materials, and investments in recycling technology for critical materials.

3 All disclosure shall be sufficient such that it is specific to the risks the entity faces, but that disclosure itself would not compromise the entity's ability to maintain confidential information.

3.1 For example, if an entity determines not to identify a specific critical material that presents a significant risk to its operations because of the competitive harm that could result from the disclosure, the entity shall disclose the existence of such risks, the type of risks and the strategies used to mitigate the risks, but the entity is not required to disclose the relevant critical material.

Remanufacturing Design & Services

Topic Summary

Industrial machinery and goods manufacturing uses large quantities of steel, iron, aluminium, glass, plastics and other materials. Remanufacturing industrial machinery systems (called 'cores') presents an opportunity for industrial machinery entities to limit the quantity of raw materials needed to produce new machinery, as well as reduce the time and other resources required to produce finished goods. Remanufactured products also may create value from products otherwise destined for disposal or recycling. Industrial machinery entities may achieve cost savings by reusing end-of-life parts to build remanufactured machines, which may be resold to customers. Thus, remanufacturing in process and design may reduce demand for raw materials, decrease manufacturing costs and create new sales channels.

Metrics

RT-IG-440b.1. Revenue from remanufactured products and remanufacturing services

1 The entity shall disclose its total revenue from products remanufactured and services associated with remanufacturing goods, such that:

1.1 a remanufactured product is defined as an end-of-life product or component (previously sold, worn or non-functional) that has undergone an industrial process to be returned to original working condition (is considered 'like new'); and

1.2 remanufacturing services are defined as providing the service of repairing, restoring or remanufacturing end-of-life goods to original working condition.

2 The scope of the disclosure excludes servicing of products that are in-warranty and have been collected for repairs.

Note to **RT-IG-440b.1**

1 The entity shall discuss its initiatives employed to obtain end-of-life products and parts for remanufacturing, including product take-back programmes.

2 Relevant disclosures include customer and supplier engagement efforts, equipment servicing or exchange programmes, and other incentives to encourage end-of-life parts remanufacturing, such as dealer deposits that are refunded when used parts or products (also referred to as 'cores') are returned to the manufacturer within the specified timeframe.

SASB STANDARDS

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