



SUSTAINABILITY ACCOUNTING STANDARD  
RESOURCE TRANSFORMATION SECTOR

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# CHEMICALS

## Sustainability Accounting Standard

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Sustainable Industry Classification System™ (SICS™) #RT0101

Prepared by the  
Sustainability Accounting Standards Board®

OCTOBER 2014  
EXPOSURE DRAFT FOR PUBLIC COMMENT

# CHEMICALS

## Sustainability Accounting Standard

### About SASB

The Sustainability Accounting Standards Board (SASB) provides sustainability accounting standards for use by publicly listed corporations in the U.S. in disclosing material sustainability information for the benefit of investors and the public. SASB standards are designed for disclosure in mandatory filings to the Securities and Exchange Commission (SEC), such as the Form 10-K and 20-F. SASB is an independent 501(c)3 nonprofit organization. Through 2016, SASB is developing standards for more than 80 industries in 10 sectors.

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### SUSTAINABILITY ACCOUNTING STANDARDS BOARD

75 Broadway, Suite 202  
San Francisco, CA 94111  
415.830.9220

[info@sasb.org](mailto:info@sasb.org)

[www.sasb.org](http://www.sasb.org)

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# INTRODUCTION

## Purpose & Structure

This document contains the SASB Sustainability Accounting Standard (SASB Standard) for the Chemicals industry.

SASB Standards are comprised of **(1) disclosure guidance and (2) accounting standards on sustainability topics** for use by U.S. and foreign public companies in their annual filings (Form 10-K or 20-F) with the U.S. Securities and Exchange Commission (SEC). To the extent relevant, SASB Standards may also be applicable to other periodic mandatory filings with the SEC, such as the Form 10-Q, Form S-1, and Form 8-K.

SASB's disclosure guidance identifies sustainability topics at an industry level, which may be material— depending on a company's specific operating context— to a company within that industry.

Each company is ultimately responsible for determining which information is material and is therefore required to be included in its Form 10-K or 20-F and other periodic SEC filings.

SASB's accounting standards provide companies with standardized accounting metrics to account for performance on industry-level sustainability topics. When making disclosure on sustainability topics, companies adopting SASB's accounting standards will help to ensure that disclosure is standardized and therefore useful, relevant, comparable, and auditable.

## Industry Description

Companies in the Chemicals industry have global operations/production facilities to transform organic and inorganic feedstocks into more than 70,000 diverse chemical products with a range of industrial, pharmaceutical, agricultural, housing, automotive, and consumer applications. The Chemicals industry is commonly segmented into basic (commodity) chemicals, agricultural chemicals, and specialty chemicals. Basic chemicals, the largest segment, includes bulk polymers, petrochemicals, inorganic chemicals, and other industrial chemicals. Agricultural chemicals include fertilizers, crop chemicals, and agricultural biotechnology. Specialty chemicals include paints and coatings, agrochemicals, sealants, adhesives, dyes, industrial gases, resins, and catalysts. As the global middle class expands, demand for consumer goods will likely grow, driving increased chemical production. A dynamic regulatory environment, rapid innovation, and increased production in developing nations will underlie key sustainability trends within the industry.

# Guidance for Disclosure of Material Sustainability Topics in SEC Filings

## 1. Industry-Level Sustainability Disclosure Topics

For the Chemicals industry, SASB has identified the following sustainability disclosure topics:

- Greenhouse Gas Emissions
- Energy Management
- Air Quality
- Water Management
- Hazardous Materials Management
- Employee Health & Safety
- Product Lifecycle Management & Innovation
- Political Spending
- Operational Safety, Emergency Management & Response

## 2. Company-Level Determination and Disclosure of Material Sustainability Topics

Sustainability disclosures are governed by the same laws and regulations that govern disclosures by securities issuers generally. According to the U.S. Supreme Court, a fact is material if, in the event such fact is omitted from a particular disclosure, there is “a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the ‘total mix’ of the information made available.”<sup>1,2</sup>

SASB has attempted to identify those sustainability topics that it believes may be material for all companies within each SICS industry. SASB recognizes, however, that each company is ultimately responsible for determining what is material to it.

Regulation S-K, which sets forth certain disclosure requirements associated with Form 10-K and other SEC filings, requires companies, among other things, to describe in the Management’s Discussion and Analysis of Financial Condition and Results of Operations (MD&A) section of Form 10-K “any known trends or uncertainties that have had or that the registrant reasonably expects will have a material favorable or unfavorable impact on net sales or revenues or income from continuing operations. If the registrant knows of events that will cause a material change in the relationship between costs and revenues (such as known future increases in costs of labor or materials or price increases or inventory adjustments), the change in the relationship shall be disclosed.”<sup>2</sup>

Furthermore, Instructions to Item 303 state that the MD&A “shall focus specifically on material events and uncertainties known to management that would cause reported financial information not to be necessarily indicative of future operating results or of future financial condition.”<sup>2</sup>

In determining whether a trend or uncertainty should be disclosed, the SEC has stated that management should use a two-part assessment based on probability and magnitude:

First, a company is not required to make disclosure about a known trend or uncertainty if its management determines that such trend or uncertainty is not reasonably likely to occur.

Second, if a company’s management cannot make a reasonable determination of the likelihood of an event or uncertainty, then disclosure is required unless management determines that a material effect on the registrant’s financial condition or results of operation is not reasonably likely to occur.

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<sup>1</sup> TSC Industries v. Northway, Inc., 426 U.S. 438 (1976).

<sup>2</sup> C.F.R. 229.303(item 303)(a)(3)(ii).

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### 3. Sustainability Accounting Standard Disclosures in Form 10-K

#### a. Management's Discussion and Analysis

Companies should consider making disclosure on sustainability topics as a complete set in the MD&A, in a subsection titled "**Sustainability Accounting Standards Disclosures.**"<sup>3</sup>

#### b. Other Relevant Sections of Form 10-K

In addition to the MD&A section, companies should consider disclosing sustainability information in other sections of Form 10-K as relevant, including:

**Description of business**—Item 101 of Regulation S-K requires a company to provide a description of its business and its subsidiaries. Item 101(c)(1)(xii) expressly requires disclosure regarding certain costs of complying with environmental laws:

Appropriate disclosure also shall be made as to the material effects that compliance with Federal, State and local provisions which have been enacted or adopted regulating the discharge of materials into the environment, or otherwise relating to the protection of the environment, may have upon the capital expenditures, earnings and competitive position of the registrant and its subsidiaries.

**Legal proceedings**—Item 103 of Regulation S-K requires companies to describe briefly any material pending or contemplated legal proceedings. Instructions to Item 103 provide specific disclosure requirements for administrative or judicial proceedings arising from laws and regulations that target discharge of materials into the environment or that are primarily for the purpose of protecting the environment.

**Risk factors**—Item 503(c) of Regulation S-K requires filing companies to provide a discussion of the most significant factors that make an investment in the registrant speculative or risky, clearly stating the risk and specifying how a particular risk affects the particular filing company.

#### c. Rule 12b-20

Securities Act Rule 408 and Exchange Act Rule 12b-20 require a registrant to disclose, in addition to the information expressly required by law or regulation, "such further material information, if any, as may be necessary to make the required statements, in light of the circumstances under which they are made, not misleading."

More detailed guidance on disclosure of material sustainability topics can be found in the **SASB Conceptual Framework**, available for download via <http://www.sasb.org/approach/conceptual-framework/>.

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<sup>3</sup> SEC [Release Nos. 33-8056; 34-45321; FR-61] [Commission Statement about Management's Discussion and Analysis of Financial Condition and Results of Operations](#): "We also want to remind registrants that disclosure must be both useful and understandable. That is, management should provide the most relevant information and provide it using language and formats that investors can be expected to understand. Registrants should be aware also that investors will often find information relating to a particular matter more meaningful if it is disclosed in a single location, rather than presented in a fragmented manner throughout the filing."

# Guidance on Accounting of Material Sustainability Topics

For sustainability disclosure topics in the Chemicals industry, SASB identifies accounting metrics.

SASB recommends that each company consider using these sustainability accounting metrics when disclosing its performance with respect to each of the sustainability topics it has identified as material.

As appropriate—and consistent with Rule 12b-20<sup>4</sup>—for each sustainability topic, companies should consider including a narrative description of any material factors necessary to ensure completeness, accuracy, and comparability of the data reported. Where not addressed by the specific accounting metrics, but relevant, the registrant should discuss the following, related to the topic:

The registrant's **strategic approach** to managing performance on material sustainability issues;

The registrant's competitive positioning;

The **degree of control** the registrant has;

Any measures the registrant has undertaken or plans to undertake to improve performance; and

Data for the registrant's **last three completed fiscal years** (when available).

SASB recommends that registrants use SASB Standards specific to their primary industry as identified in the [Sustainable Industry Classification System \(SICS™\)](#). If a registrant generates significant revenue from multiple industries, SASB recommends that it consider the materiality of the sustainability issues that SASB has identified for those industries and disclose the associated SASB accounting metrics.

## Users of the SASB Standards

The SASB Standards are intended for companies that engage in public offerings of securities registered under the Securities Act of 1933 (the Securities Act) and those that issue securities registered under the Securities Exchange Act of 1934 (the Exchange Act),<sup>5</sup> for use in SEC filings, including, without limitation, annual reports on Form 10-K (Form 20-F for foreign issuers), quarterly reports on Form 10-Q, current reports on Form 8-K, and registration statements on Forms S-1 and S-3. Nevertheless, disclosure with respect to the SASB Standards is not required or endorsed by the SEC or other entities governing financial reporting, such as FASB, GASB, or IASB.

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<sup>4</sup> SEC Rule 12b-20: "In addition to the information expressly required to be included in a statement or report, there shall be added such further material information, if any, as may be necessary to make the required statements, in the light of the circumstances under which they are made, not misleading."

<sup>5</sup> Registration under the Securities Exchange Act of 1934 is required (1) for securities to be listed on a national securities exchange, such as the New York Stock Exchange, the NYSE Amex, and the NASDAQ Stock Market, or (2) if (A) the securities are equity securities, and are held by more than 2,000 persons (or 500 persons who are not accredited investors) and (B) the company has more than \$10 million in assets.



# Scope of Disclosure

Unless otherwise specified, SASB recommends:

That a registrant disclose on sustainability issues and metrics for itself and for entities in which the registrant has a controlling interest and therefore are consolidated for financial reporting purposes (controlling interest is generally defined as ownership of 50% or more of voting shares);<sup>6</sup>

That for consolidated entities, disclosures be made, and accounting metrics calculated, for the whole entity, regardless of the size of the minority interest; and

That information from unconsolidated entities not be included in the computation of SASB accounting metrics. A registrant should disclose, however, information about unconsolidated entities to the extent that the registrant considers the information necessary for investors to understand its performance with respect to sustainability issues (typically, this disclosure would be limited to risks and opportunities associated with these entities).

## Reporting Format

### Activity Metrics and Normalization

SASB recognizes that normalizing accounting metrics is important for the analysis of SASB disclosures.

SASB recommends that a registrant disclose any basic business data that may assist in the accurate evaluation and comparability of disclosure, to the extent that they are not already disclosed in the Form 10-K (e.g., revenue, EBITDA, etc.).

Such data—termed “activity metrics”—may include high-level business data such as total number of employees, quantity of products produced or services provided, number of facilities, or number of customers. It may also include industry-specific data such as plant capacity utilization (e.g., for specialty chemical companies), number of transactions (e.g., for Internet media and services companies), hospital bed days (e.g., for health care delivery companies), or proven and probable reserves (e.g., for oil and gas exploration and production companies).

Activity metrics disclosed should:

Convey contextual information that would not otherwise be apparent from SASB accounting metrics.

Be deemed generally useful for users of SASB accounting metrics (e.g., investors) in performing their own calculations and creating their own ratios.

Be explained and consistently disclosed from period to period to the extent they continue to be relevant. However, a decision to make a voluntary disclosure in one period does not obligate a continuation of that disclosure if it is no longer relevant or if a better metric becomes available.

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<sup>6</sup> See US GAAP consolidation rules (Section 810).  
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Where relevant, SASB recommends specific activity metrics that—at a minimum—should accompany SASB accounting metric disclosures.

ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE
Amount of chemical production (i.e. throughput)	Quantitative	Cubic Meters (m <sup>3</sup> ) and/or Tons (t) <sup>7</sup>	RT0101-A
Number of employees, percentage in manufacturing role	Quantitative	Number, Percentage (%)	RT0101-B

## Units of Measure

Unless specified, disclosures should be reported in International System of Units (SI units).

## Uncertainty

SASB recognizes that there may be inherent uncertainty when disclosing certain sustainability data and information. This may be related to variables such as the imperfectness of third-party reporting systems or the unpredictable nature of climate events. Where uncertainty around a particular disclosure exists, SASB recommends that the registrant should consider discussing its nature and likelihood.

## Estimates

SASB recognizes that scientifically-based estimates, such as the reliance on certain conversion factors or the exclusion of *de minimis* values, may be necessary for certain quantitative disclosures. Where appropriate, SASB does not discourage the use of such estimates. When using an estimate for a particular disclosure, SASB expects that the registrant discuss its nature and substantiate its basis.

## Timing

Unless otherwise specified, disclosure shall be for the registrant's fiscal year.

## Limitations

There is no guarantee that SASB Standards address all sustainability impacts or opportunities associated with a sector, industry, or company, and therefore, a company must determine for itself the topics—sustainability-related or otherwise—that warrant discussion in its SEC filings.

Disclosure under SASB Standards is voluntary. It is not intended to replace any legal or regulatory requirements that may be applicable to user operations. Where such laws or regulations address legal or regulatory topics, disclosure under SASB Standards is not meant to supersede those requirements. Disclosure according to SASB Standards shall not be construed as demonstration of compliance with any law, regulation, or other requirement.

SASB Standards are intended to be aligned with the principles of materiality enforced by the SEC. However, SASB is not affiliated with or endorsed by the SEC or other entities governing financial reporting, such as FASB, GASB, or IASB.

<sup>7</sup> Because chemicals may be sold by weight or by volume, the registrant shall disclose the amount of product in relevant units.

# Forward-looking Statements

Disclosures on sustainability topics can involve discussion of future trends and uncertainties related to the registrant's operations and financial condition, including those influenced by external variables (e.g., environmental, social, regulatory, and political). Companies making such disclosures should familiarize themselves with the safe harbor provisions of Section 27A of the Securities Act and Section 21E of the Exchange Act, which preclude civil liability for material misstatements or omissions in such statements if the registrant takes certain steps, including, among other things, identifying the disclosure as "forward-looking" and accompanying such disclosure with "meaningful cautionary statements identifying important factors that could cause actual results to differ materially from those in the forward-looking statements."

## Assurance

In disclosing to SASB Standards, it is expected that registrants disclose with the same level of rigor, accuracy, and responsibility as they apply to all other information contained in their SEC filings.

SASB encourages registrants to use independent assurance (attestation); for example, an Examination Engagement to AT Section 101.

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# Table 1. Sustainability Disclosure Topics & Accounting Metrics

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	CODE
<b>Greenhouse Gas Emissions</b>	Gross global Scope 1 emissions, percentage covered under a regulatory program	Quantitative	Metric tons CO <sub>2</sub> -e, Percentage	RT0101-01
	Description of long-term 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	RT0101-02
<b>Energy Management</b>	Total energy consumed, percentage grid electricity, percentage renewable	Quantitative	Gigajoules (GJ), Percentage (%)	RT0101-03
<b>Air Quality</b>	Air emissions for the following pollutants: NO <sub>x</sub> (excluding N <sub>2</sub> O), SO <sub>x</sub> , and volatile organic compounds (VOCs)	Quantitative	Metric tons	RT0101-04
	Number of production facilities in or near areas of dense population	Quantitative	Number	RT0101-05
<b>Water Management</b>	Total water withdrawn, percentage recycled, percentage in regions with High or Extremely High Baseline Water Stress	Quantitative	Cubic Meters (m <sup>3</sup> ), Percentage (%)	RT0101-06
	Number of incidents of non-compliance with water quality permits, standards, and regulations	Quantitative	Number	RT0101-07
<b>Hazardous Materials Management</b>	Amount of hazardous waste, percentage recycled	Quantitative	Tons (t), Percentage (%)	RT0101-08
	Number and aggregate quantity of reportable releases and spills, quantity recovered	Quantitative	Number, Kilograms (kg)	RT0101-09
<b>Employee Health &amp; Safety</b>	(1) Total recordable injury rate and (2) fatality rate for (a) full-time employees and (b) contract employees	Quantitative	Rate	RT0101-10
	Discussion of efforts to assess, monitor, and reduce exposure of employees and contract workers to long-term (chronic) health risks	Discussion and Analysis	n/a	RT0101-11

# Table 1. Sustainability Disclosure Topics & Accounting Metrics (cont.)

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	CODE
<b>Product Lifecycle Management &amp; Innovation</b>	Percentage of raw materials from renewable resources	Quantitative	Percentage (%) by weight	RT0101-12
	Percentage of products by revenue that qualify as (a) Registration, Evaluation, Authorisation and Restriction of Chemical (REACH) substances of very high concern (SVHC), or (b) Class I World Health Organization (WHO): Acute Toxicity Hazard Categories	Quantitative	Percentage (%) by revenue	RT0101-13
	Percentage of products by revenue that contain genetically modified organisms	Quantitative	Percentage (%) by revenue	RT0101-14
	Amount of legal and regulatory fines and settlements associated with product safety <sup>8</sup>	Quantitative	U.S. Dollars (\$)	RT0101-15
	Total addressable market and share of market for Green Chemistry-based products	Quantitative	U.S. Dollars (\$), Percentage (%)	RT0101-16
<b>Political Spending</b>	Amount of political campaign spending, lobbying expenditures, and contributions to tax-exempt groups, including trade associations	Quantitative	U.S. Dollars (\$)	RT0101-17
	Five largest political, lobbying, or tax-exempt group expenditures	Quantitative	U.S. Dollars (\$), by recipient	RT0101-18
<b>Operational Safety, Emergency Management &amp; Response</b>	Process Safety Incidents Count (PSIC), Process Safety Total Incident Rate (PSTIR), Process Safety Incident Severity Rate (PSISR)	Quantitative	Number, Rate	RT0101-19
	Challenges to the Safety Systems indicator rate (Tier 3)	Quantitative	Rate	RT0101-20
	Number of transport incidents <sup>9</sup>	Quantitative	Number	RT0101-21

<sup>8</sup> Note to RT0101-15 – Disclosure shall include a description of fines and settlements and corrective actions implemented in response to events.

<sup>9</sup> Note to RT0101-21 – Disclosure shall include a discussion of the severity of impact of transport incidents.

# Greenhouse Gas Emissions

## Description

Chemical manufacturing facilities often burn large amounts of fossil fuels in manufacturing and cogeneration processes resulting in direct (Scope 1) emissions of greenhouse gases (GHGs). Natural gas, liquefied petroleum gases, and natural gas liquids are the primary energy sources used within the Chemicals industry, which can result in significant environmental externalities, such as climate change. Direct emissions from the use of fossil fuels are a source of corporate risk arising from current and potential future regulations in the U.S. and abroad. Financial impacts on companies will vary depending on the specific location of operations and the prevailing emissions regulations. Companies that cost-effectively reduce GHG emissions from their operations by implementing industry-leading technologies and processes can create operational efficiency. They can mitigate the impact on value from increased fuel costs and regulations that limit—or put a price on—carbon emissions, which are occurring as regulatory and public concerns about climate change are increasing in the U.S. and globally.

## Accounting Metrics

### RT0101-01. Gross global Scope 1 emissions, percentage covered under a regulatory program

- .01 The registrant shall disclose gross global Scope 1 greenhouse gas (GHG) emissions to the atmosphere of the six GHGs covered under the Kyoto Protocol (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride).
- Emissions of all gases shall be disclosed in metric tons of carbon dioxide equivalents (CO<sub>2</sub>-e), calculated in accordance with published global warming potential (GWP) factors. To date, the preferred source for GWP factors is the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (1995).
  - Gross emissions are GHGs emitted to the atmosphere before accounting for any GHG reduction activities, offsets, or other adjustments for activities in the reporting period that have reduced or compensated for emissions.
  - Disclosure corresponds to section CC8.2 of the Carbon Disclosure Project (CDP) Questionnaire and section 4.25 of the Climate Disclosure Standards Board (CDSB) *Climate Change Reporting Framework* (CCRF).
- .02 Scope 1 emissions are defined by the World Resources Institute and the World Business Council on Sustainable Development (WRI/WBCSD) in *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard*, Revised Edition, March 2004 (hereafter, the “GHG Protocol”).
- These emissions include direct emissions of GHGs from stationary or mobile sources that include, but are not limited to, equipment, production facilities, office buildings, and transportation (i.e., marine, road, or rail).
- .03 GHG emission data shall be consolidated according to the approach with which the registrant consolidates its financial reporting data, which is generally aligned with:
- The Financial Control approach defined by the GHG Protocol and referenced by the *CDP Guidance for companies reporting on climate change on behalf of investors & supply chain members 2013* (hereafter, the “CDP Guidance”).<sup>10</sup>

<sup>10</sup> “An organization has financial control over an operation if it has the ability to direct the financial and operating policies of the operation with a view to gaining economic benefits from its activities. Generally an organization has financial control over an operation for GHG  
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- The approach detailed in Section 4.23, “Organizational boundary setting for GHG emissions reporting,” of the CDSB Climate Change Reporting Framework (CCRF).<sup>11</sup>
- .04 The underlying technical approach to data collection, analysis, and disclosure shall be consistent with the CDP Guidance.
- The registrant shall consider the CDP Guidance as a normative reference, thus any updates made year-on-year shall be considered updates to this guidance.
- .05 The registrant shall disclose the percentage of its emissions that are covered under a regulatory program, such as the European Union Emissions Trading Scheme (EU ETS), Western Climate Initiative (WCI), California Cap-and-Trade (California Global Warming Solutions Act), or other regulatory programs.
- Regulatory programs include cap-and-trade schemes and carbon tax/fee systems.
  - Disclosure shall exclude emissions covered under voluntary trading systems and disclosure-based regulations (e.g., the U.S. Environmental Protection Agency (EPA) mandatory reporting rule).
- .06 The registrant should discuss any change in its emissions from the previous fiscal year, such as if the change was due to emissions reductions, divestment, acquisition, mergers, changes in output, and/or changes in calculation methodology.
- .07 In the case that current reporting of GHG emissions to the CDP or other entity (e.g., a national regulatory disclosure program) differs in terms of the scope and consolidation approach used, the registrant may disclose those emissions. However, primary disclosure shall be according to the guidelines described above.
- .08 The registrant should discuss the calculation methodology for its emission disclosure, such as if data are from continuous emissions monitoring systems (CEMS), engineering calculations, mass balance calculations, etc.

**RT0101-02. Description of long-term and short-term strategy or plan to manage Scope 1 emissions, including emissions reduction targets, and an analysis of performance against those targets**

- .09 The registrant shall discuss the following where relevant:
- The scope, such as whether strategies, plans, and/or reduction targets pertain differently to different business units, geographies, or emissions sources;
  - Whether strategies, plans, and/or reduction targets are related to or associated with an emissions disclosure (reporting) or reduction program (e.g., EU ETS, RGGI, WCI, etc.), including regional, national, international, or sectoral programs; and
  - The activities and investments required to achieve the plans, and any risks or limiting factors that might affect achievement of the plans and/or targets.

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accounting purposes if the operation is treated as a group company or subsidiary for the purposes of financial consolidation.” *Guidance for companies reporting on climate change on behalf of investors & supply chain members 2013*, p. 95.

<sup>11</sup> This is based on the requirements of International Accounting Standards/International Financial Reporting Standards (IAS/IFRS) on consolidation and equity accounting and is consistent with how information relating to entities within a group or interest in joint ventures/associates would be included on consolidated financial statements, as per the CDSB *Climate Change Reporting Framework*.

.10 For emission-reduction targets the registrant shall disclose:

- The percentage of emissions within the scope of the reduction plan;
- The percentage reduction from base year;
  - The base year is the first year against which emissions are evaluated towards the achievement of the target
- Whether the target is absolute or intensity based, and the metric denominator if it is an intensity-based target;
- The timelines for the reduction activity, including the start year, the target year, and the base year. Disclosure shall be limited to activities that were ongoing (active) or reached completion during the fiscal year;
- The mechanism(s) for achieving the target, such as energy efficiency efforts, energy source diversification, carbon capture and storage, etc.

.11 Where necessary, the registrant shall discuss any circumstances in which the target base year emissions have been, or may be, recalculated retrospectively or where the target base year has been reset.

.12 Disclosure corresponds with:

- CDSB Section 4, "Management actions."<sup>12</sup>
- CDP questionnaire "CC3. Targets and Initiatives."

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<sup>12</sup> 4.12, "Disclosure shall include a description of the organization's long-term and short-term strategy or plan to address climate change-related risks, opportunities, and impacts, including targets to reduce GHG emissions and an analysis of performance against those targets." *Climate Change Reporting Framework – Edition 1.1*, October 2012, CDSB.



# Energy Management

## Description

Fuel combustion onsite contributes to the Chemical industry's direct (Scope 1) GHG emissions, however, electricity purchases from the grid create indirect impacts on the climate through Scope 2 emissions. These firms are highly reliant on energy as an input for value creation. Approximately one third of the industry's total emissions (direct and indirect) are from purchased electricity. Since electricity consumption can indirectly contribute to climate change and air pollution through combustion of fossil fuels at the utility level, the cost of grid electricity may increase to offset carbon pricing of utilities. With manufacturing plants located in multiple regions, the likelihood and impact of climate change regulations will vary depending on the exact location of facilities. The choice between onsite versus grid-sourced electricity, and use of alternative energy, can play an important role in influencing both the costs and reliability of energy supply. Affordable and easily accessible energy is essential for competing in a commodity market driven by global competition; purchased fuels and electricity account for a significant proportion of total production costs. The way in which a company manages its overall energy efficiency and intensity, its reliance on different types of energy and associated sustainability risks, and its ability to access alternative sources of energy, can therefore be material.

## Accounting Metrics

### RT0101-03. Total energy consumed, percentage grid electricity, percentage renewable

- .13 The registrant shall disclose total energy consumption from all sources as an aggregate figure in gigajoules or their multiples.
- The scope includes energy purchased from sources external to the organization or produced by the organization itself (self-generated).
  - The scope includes only energy consumed by entities owned or controlled by the organization.
  - The scope includes energy from all sources, including direct fuel usage, purchased electricity, and heating, cooling, and steam energy.
- .14 In calculating energy consumption from fuels and biofuels, the registrant shall use higher heating values (HHV), also known as gross calorific values (GCV), and which are directly measured or taken from the Intergovernmental Panel on Climate Change (IPCC), the U.S. Department of Energy (DOE), or the U.S. Energy Information Administration (EIA).
- .15 The registrant shall disclose purchased grid electricity consumption as a percentage of its total energy consumption.
- .16 The registrant shall disclose renewable energy consumption as a percentage of its total energy consumption.
- The scope of renewable energy includes renewable fuel the registrant consumes and renewable energy the registrant directly produces, purchases through a renewable power purchase agreement (PPA) that explicitly includes renewable energy certificates (RECs), or for which Green-e Energy Certified RECs are paired with grid electricity.
  - For any renewable electricity generated onsite, any RECs must be retained (i.e., not sold) and retired on behalf of the registrant in order for the registrant to claim them as renewable energy.

- For renewable PPAs, the agreement must explicitly include and convey that RECs be retained and retired on behalf of the registrant in order for the registrant to claim them as renewable energy.
- The renewable portion of the electricity grid mix that is outside of the control or influence of the registrant is excluded from disclosure.<sup>13</sup>

.17 Renewable energy is defined as energy from sources that are capable of being replenished in a short time through ecological cycles, such as geothermal, wind, solar, hydro, and biomass.

- For the purposes of this disclosure, the scope of renewable energy from hydro and biomass sources are limited to the following:
  - Energy from hydro sources that are certified by the Low Impact Hydropower Institute;
  - Energy from biomass sources is limited to those sources that are considered “eligible renewables” according to the Green-e Energy National Standard Version 2.4, or eligible for a state Renewable Portfolio Standard.

.18 The registrant 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 kWh to gigajoules (including electricity from solar or wind energy).

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<sup>13</sup> SASB recognizes that RECs reflect the environmental attributes of renewable energy that have been introduced to the grid, and that a premium has been paid by the purchaser of the REC to enable generation of renewable energy beyond any renewable energy already in the grid mix, absent the market for RECs.

# Air Quality

## Description

Apart from GHGs, which have global impacts, other air emissions from chemical manufacturing can have significant, localized human health and environmental impacts. In general, releases of air pollutants in the Chemicals industry stem from the combustion of fuels and the processing of raw materials. Production of key chemicals, such as sulfuric acid (the most-produced chemical in the U.S.) and nitric acid, used to manufacture fertilizers and organic and inorganic chemicals, generates significant volumes of sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>). Relative to other industries, the Chemicals industry provides a substantial source of some of these pollutants. Financial impacts on companies will vary depending on the specific location of operations and the prevailing air emissions regulations. Active management of the issue—through technological and process improvements—could allow companies to limit the impacts of increasingly stringent air quality regulations globally. Companies could also benefit from operational efficiencies that could lead to a lower cost structure over time. Human health impacts and financial consequences for chemical companies are likely to be exacerbated the closer a facility is to a local community.

## Accounting Metrics

### **RT0101-04. Air emissions for the following pollutants: NO<sub>x</sub> (excluding N<sub>2</sub>O), SO<sub>x</sub>, and volatile organic compounds (VOCs)**

.19 The registrant shall disclose its emissions of air pollutants that are released to the atmosphere as a result of its activities:

- Direct air emissions from stationary or mobile sources that include, but are not limited to, production facilities, office buildings, marine vessels transporting products, and truck fleets.

.20 The registrant shall disclose emissions released to the atmosphere by emissions type. Substances include:

- Oxides of nitrogen (including NO and NO<sub>2</sub> and excluding N<sub>2</sub>O) reported as NO<sub>2</sub>
- Oxides of sulfur (SO<sub>2</sub> and SO<sub>3</sub>) reported as SO<sub>2</sub>
- Nonmethane volatile organic compounds (VOCs), defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and methane, which participates in atmospheric photochemical reactions, except those designated by the U.S. Environmental Protection Agency (EPA) as having negligible photochemical reactivity

.21 This scope does not include CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O, which are disclosed in RT0101-01 as Scope 1 GHG emissions.

.22 Air emissions data shall be consolidated according to the approach with which the registrant consolidates its financial reporting data, which is aligned with the consolidation approach used for RT0101-01.

.23 The registrant should discuss the calculation methodology for its emission disclosure, such as whether data are from continuous emissions monitoring systems (CEMS), engineering calculations, mass balance calculations, etc.

## **RT0101-05. Number of production facilities in or near areas of dense population**

.24 The registrant shall disclose the number of its production facilities that are located in or near areas of dense population, which are defined as urbanized areas according to U.S. Census Bureau definitions.<sup>14</sup>

- Generically, these include urbanized areas with populations greater than 50,000.
- A list of urbanized areas is available based on census results, with the list from 2010 accessible here: <http://www.gpo.gov/fdsys/pkg/FR-2012-03-27/pdf/2012-6903.pdf> .

.25 The scope of disclosure includes production facilities that are located in a census tract or block considered to be in an urbanized area, or are within 49 kilometers of an urbanized area.<sup>15</sup>

.26 For production facilities located outside of the U.S., the registrant shall use available census data to determine whether the facility is located in an urbanized area, as defined by the U.S. Census Bureau:

- In the absence of available or accurate census data, the registrant should use international population density data available from the Columbia University/NASA Socioeconomic Data and Applications Center's (SEDAC) Gridded Population of the World (GPW), v3.

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<sup>14</sup> "Federal Register." U.S. Department of Commerce. Vol. 76. No. 164. August 24, 2011.

<http://www.census.gov/geo/reference/pdfs/fedreg/fedregv76n164.pdf>

<sup>15</sup> The 49 km radius is based on definition of "exposed population" from the U.S. EPA's Office of Pollution Prevention and Toxics, User's Manual for RSEI Version 2.3.2., July 2013: "The exposed population is the population that is likely to come in contact with a chemical. The population differs depending on the exposure pathway modeled. For instance, the population exposed to chemicals released to air is the population in a circle with a radius of 49 km surrounding the facility."

# Water Management

## Description

Water is increasingly becoming a scarce resource, due to population growth, rapid urbanization, and potentially shifting supply due to climate change. Water scarcity can result in higher supply costs and higher risk of shortages for companies with water-intensive operations. Chemical plants use relatively large quantities of water, primarily for cooling, steam generation, and chemical processing. Furthermore, chemical processing can generate process wastewater and surface water runoff, which may be contaminated with metals, suspended solids, extreme pH levels, and hazardous chemicals. Reducing water use and contamination through recycling and other water management strategies could create operational efficiency for companies and lower their operating costs; they could also minimize the impacts of regulations, water supply shortages, and community-related disruptions on operations.

## Accounting Metrics

### **RT0101-06. Total water withdrawn, percentage recycled, percentage in regions with High or Extremely High Baseline Water Stress**

- .27 The registrant shall disclose the amount of water (in thousands of cubic meters) that was withdrawn from fresh water sources for use in operations.
- Fresh water may be defined according to the local statutes and regulations where the registrant operates. Where there is no regulatory definition, fresh water shall be considered to be water that has a solids (TDS) concentration of less than 1000 mg/l per the Water Quality Association [definition](#).
  - Water obtained from a water utility can be assumed to meet the definition of fresh water.<sup>16</sup>
- .28 The registrant shall disclose the total amount of water by volume (in thousands of cubic meters) that was recycled during the fiscal year. This figure shall include the amount recycled in closed-loop and open-loop systems.
- Any volume of water reused multiple times shall be counted as recycled each time it is recycled and reused.
- .29 Using the World Resources Institute's (WRI) Water Risk Atlas tool, Aqueduct (publicly available online [here](#)), the registrant shall analyze all of its operations for water risks and identify facilities that are in a location with High (40–80%) or Extremely High (>80%) Baseline Water Stress. Water withdrawn in locations with High or Extremely High Baseline Water Stress shall be indicated as a percentage of the total water withdrawn.
- .30 For the registrant's operations that are not sub-metered in a way that allows direct measurement of water use, estimation is acceptable and shall be disclosed as such.

### **RT0101-07. Number of incidents of non-compliance with water-quality permits, standards, and regulations**

- .31 The registrant shall disclose the total number of instances of non-compliance, including violations of a technology-based standard and exceedances of a quality-based standard.
- .32 The scope of disclosure includes incidents related to statutory permits and regulations or voluntary agreements, standards, or guidelines, such as total maximum daily load (TMDL) exceedances.

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<sup>16</sup> <http://water.epa.gov/drink/contaminants/secondarystandards.cfm>

.33 Voluntary standards include, among others, the registrant's own water quality standards (parameters) or "effluent guidelines" from the International Finance Corporation's (IFC) Environmental, Health, and Safety Guidelines as outlined in the following industry-specific guidelines:

- Oleochemicals Manufacturing,
- Nitrogenous Fertilizer Manufacturing,
- Phosphate Fertilizer Manufacturing,
- Petroleum-based Polymers Manufacturing,
- Large Volume Petroleum-based Organic Chemicals Manufacturing,
- Pesticides Formulation, Manufacturing and Packaging,

.34 Typical parameters of concern include total nitrogen, total phosphorous, biological oxygen demand (BOD), total dissolved solids (TDS), oil and grease, total suspended solids (TSS), and pH.

.35 An incident of non-compliance shall be disclosed regardless of whether it resulted in an enforcement action (e.g., fine, warning letter, etc.).

.36 Violations, regardless of their measurement methodology or frequency, shall be disclosed. These include:

- For continuous discharges, limitations, standards, and prohibitions that are generally expressed as maximum daily, weekly average, and monthly averages.
- For non-continuous discharges, limitations that are generally expressed in terms of frequency, total mass, maximum rate of discharge, and mass or concentrations of specified pollutants.

# Hazardous Materials Management

## Description

Chemical companies face regulatory and operational challenges in managing process waste and in handling and storing products, as many of these substances can be hazardous to human health and the environment. Chemical manufacturing generates wastes subject to different regulations (both within the U.S. and/or internationally), such as the Resource Conservation and Recovery Act (RCRA), which regulates the generation, transport, treatment, storage, and disposal of hazardous and solid waste. Hazardous wastes generated by plants include metals, spent acids, caustics, solid catalysts, wastewater treatment sludge, and residues from tank-cleaning operations. Proper processing and disposal of hazardous waste materials are essential to limiting risk of remediation liabilities, fines, and regulations. In addition, companies that are able to limit the waste of input materials and recycle the waste generated may achieve significant cost savings and improve profitability.

## Accounting Metrics

### RT0101-08. Amount of hazardous waste, percentage recycled

.37 The amount of hazardous waste shall be calculated in metric tons, where:

- Waste is generally defined as anything for which the registrant has no further use and is discarded or released to the environment.
- Hazardous waste is waste that meets the definition of hazardous waste under Subtitle C of the U.S. Environmental Protection Agency's (EPA) Resource Conservation and Recovery Act (RCRA).
- Hazardous wastes include those that display the following characteristics: ignitability, corrosivity, reactivity, or toxicity.

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

- A hazardous waste is recycled if it is used, reused, or reclaimed. Furthermore, RCRA hazardous waste regulation makes an important distinction between materials that are used or reused without reclamation, and those that must be reclaimed before reuse. A material is *reclaimed* if it is processed to recover a usable product, or if it is regenerated. Common hazardous waste reclamation activities involve recovery of spent solvents (e.g., recovery of acetone) or metals (e.g., recovery of lead).<sup>17</sup>
- Reused materials are defined as those recovered products or components of products that are used for the same purpose for which they were conceived.
- Recycled and remanufactured materials are defined as waste materials that have been reprocessed or treated by means of production or manufacturing processes and made into a final product, or made into a component for incorporation into a product.
- 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

<sup>17</sup> <http://www.epa.gov/solidwaste/hazard/recycling/index.htm>

primary recycled materials).

- Portions of products and materials that are disposed of in landfills are not considered recycled; only the portions of products that are directly incorporated into new products, co-products, or by-products shall be included in the percentage recycled.
- Materials sent for further recycling include those materials that are transferred to a third party for the expressed purpose of reuse, recycling, or refurbishment.
- Materials incinerated, including for energy recovery, are not considered reused or recycled. Energy recovery is defined as the use of combustible waste as a means to generate energy through direct incineration, with or without other waste, but with recovery of the heat.

**RT0101-09. Number and aggregate quantity of reportable releases and spills, quantity recovered**

.39 The registrant shall disclose the total number and quantity (in kilograms) of reportable releases, where:

- Reportable releases are defined as releases of a hazardous substance in an amount equal to or greater than the reportable quantity defined by the U.S. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
- The number of releases shall represent any spills, leaks, emissions, discharges, injections, disposals, and abandonment releases over time, counted once at the time identified, consistent with CERCLA.
- The aggregate quantity reported shall represent the total estimated quantity released that reached the environment, and shall not be reduced by the amount of such hazardous substance subsequently recovered, evaporated, or otherwise lost, consistent with CERCLA.<sup>18</sup>

.40 The registrant may choose to disclose releases to soil and water separately. A release that qualifies as a release to both soil and water should be reported as a single release to water, with the volume properly apportioned to soil and water.

.41 The registrant shall calculate the quantity of releases recovered as the quantity of released hazardous substances (in kilograms) removed from the environment through short-term release response activities, excluding:

- Amounts that were recovered during longer-term remediation at spill sites.
- Amounts that evaporated, burned, or were dispersed.

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<sup>18</sup> <http://www.epa.gov/superfund/policy/release/rq/index.htm#info>



# Employee Health & Safety

## Description

Chemical manufacturing poses inherent dangers to employees. Exposure to chemicals, heat, heavy machinery, and pressurized equipment poses physical risks. Workers are also at risk of inhaling toxic fumes or being in contact with hazardous substances that can have chronic health impacts as a result of repeated or prolonged exposure. Safety culture is critical to proactively guard against accidents or other incidents with negative environmental and social impacts. By maintaining a safe work environment and promoting a culture of safety, companies can minimize risks to their employees and, in turn, avoid direct and indirect costs associated with excessive medical expenses, litigation, work disruptions and insurance fees.

## Accounting Metrics

### **RT0101-10. (1) Total recordable injury rate and (2) fatality rate for (a) full-time employees and (b) contract employees**

- .42 For registrants whose workforce is entirely U.S.-based, the registrant shall disclose its total recordable injury rate (TRIR) and fatality rate, as calculated and reported in OSHA Form 300.
- OSHA guidelines provide details on determination of whether an event is a recordable occupational incident, and definitions for exemptions for incidents that occurred in the work environment, but are not occupational.
- .43 For registrants whose workforce includes non-U.S.-based employees, the registrant shall calculate its total recordable injury rate according to the U.S. Bureau of Labor Statistics guidance and/or using the U.S. Bureau of Labor Statistics calculator.
- .44 The registrant shall disclose its TRIR separately for its full-time employees and for contract employees, including independent contractors and those employed by third parties (e.g., temp agencies, labor brokers, etc.).
- .45 The scope includes all employees, domestic and foreign.
- .46 Rates shall be calculated as: (statistic count / total hours worked) \* 200,000.

### **RT0101-11. Discussion of efforts to assess, monitor, and reduce exposure of employees and contract workers to long-term (chronic) health risks**

- .47 The registrant shall discuss efforts to assess, monitor, and reduce exposure of employees to human health hazards including, but not limited to, corrosives, sensitizers, hepatoxins, nephrotoxins, and neurotoxins, as well as known or suspected carcinogens, teratogens, mutagens and reprotoxins, as described by the Occupational Safety and Health Administration (OSHA)<sup>19</sup>.
- The scope of disclosure shall focus on employees working in laboratories and production facilities, but should include all employees as relevant.
- .48 Relevant efforts to discuss include, but are not limited to, risk assessments, participation in long-term health studies, completion of occupational exposure limit reviews, implementation of technology to control worker exposure, worker use of personal protective equipment, automation of processes, and phasing out, substituting, or using alternative materials.

<sup>19</sup> OSHA Hazard Communication Standard (29 CFR 1910.1200): <https://www.osha.gov/dsg/hazcom/ghd053107.html>

.49 The registrant may choose to discuss implementation of relevant aspects of management systems, such as those under the Responsible Care® initiative (of the American Chemistry Council), including progress towards tracking safety and health (S&H) metrics,<sup>20</sup> management system (MS) metrics, and obtaining third-party verification.<sup>21</sup>

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<sup>20</sup> <http://responsiblecare.americanchemistry.com/Responsible-Care-Program-Elements/Performance-Measures-and-Reporting-Guidance>

<sup>21</sup> <http://responsiblecare.americanchemistry.com/Responsible-Care-Program-Elements/Management-System-and-Certification>

# Product Lifecycle Management & Innovation

## Description

Chemical manufacturers face increasing challenges associated with environmental and social externalities attributed to product manufacturing, transport, use, and disposal. Due to the potentially significant environmental and human health impacts from chemicals, legislation and consumer demand continue to emphasize product lifecycle management and green chemistry initiatives. The industry must, therefore, find innovative approaches to lower the negative environmental and health impacts of existing products, and develop new products that can improve the sustainability performance of customers. These innovations include reduced toxicity, enhanced energy and water efficiency, reduced air and greenhouse gas emissions, and sustainable end-of-life disposal. Managing lifecycle impacts of products could contribute to shareholder value through improved competitive positioning, greater market share, lower regulatory demand, and reduced supply chain and health risks.

## Accounting Metrics

### RT0101-12. Percentage of raw materials from renewable resources

.50 The registrant shall disclose the percentage of raw materials (by weight) for chemical products from renewable resources, where:

- Renewable resources are defined as those which either increase in quantity or otherwise renew over a short (i.e. economically relevant) period of time, such that if the rate of extraction takes account of limitations in the reproductive capacity of the resource, renewables can provide yields over an infinite time horizon.<sup>22</sup>
- Examples of raw materials from renewable resources include, but are not limited to, carbohydrates, oils, and/or proteins extracted from common crop sources, such as corn, soy, wheat, and sugar beets, among others.

.51 The percentage is calculated as the total weight of raw materials from renewable resources, divided by the total weight of all raw materials for chemical products.

- The scope of raw materials in the denominator of the percentage calculation includes all inputs that are processed to be sold as a finished good, including renewable feedstocks, hydrocarbon feedstocks, and monomers, among others.

### RT0101-13. Percentage of products by revenue that qualify as (a) Registration, Evaluation, Authorisation and Restriction of Chemical (REACH) substances of very high concern (SVHC) and/or (b) Class I World Health Organization (WHO): Acute Toxicity Hazard Categories

.52 The registrant shall disclose the percentage of its chemical products, by revenue, that qualify as Registration, Evaluation, Authorisation and Restriction of Chemical (REACH) substances of very high concern (SVHC) and/or Class I World Health Organization (WHO): Acute Toxicity Hazard Categories, where:

- REACH SVHC list is published in accordance with Article 59(10) of the REACH Regulation, and is found online: <http://echa.europa.eu/candidate-list-table>.
- The percentage is calculated as the revenue from chemical products that are included on the list of REACH SVHC, divided by total revenue from all chemical products.

<sup>22</sup> [http://www.wto.org/english/res\\_e/booksp\\_e/anrep\\_e/wtr10-2b\\_e.pdf](http://www.wto.org/english/res_e/booksp_e/anrep_e/wtr10-2b_e.pdf)

- WHO: Acute Toxicity Hazard Categories list is published in alignment with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS), and is found online: [http://www.who.int/ipcs/publications/pesticides\\_hazard\\_2009.pdf?ua=1](http://www.who.int/ipcs/publications/pesticides_hazard_2009.pdf?ua=1)
  - The scope of this disclosure includes those chemicals classified as I(a) extremely hazardous or I(b) highly hazardous WHO: Acute Toxicity Hazard Categories as aligned with Category 1 and Category 2 chemicals, respectively in the GHS classification.
- The percentage is calculated as the revenue from chemical products that are included on the list of Class I WHO: Acute Toxicity Hazard Categories, divided by total revenue from all chemical products.

.53 The registrant may also choose to disclose the percentage of its chemical products that are persistent, bioaccumulative, and toxic (PBT), or which are carcinogenic, mutagenic, or reprotoxic (CMR), but which are not currently included on the list of REACH SVHC, where:

- PBT chemicals are defined as substances that remain unaffected in the environment, travel up the food chain due to their tendency to be soluble in fat but not in water, and are poisonous to animals and/or plants.<sup>23</sup>
- Carcinogens (C) are defined as substances and preparations that, if inhaled, ingested, or if they penetrate the skin, may induce cancer or increase its incidence.
- Mutagens (M) are defined as substances and preparations that, if they are inhaled, ingested, or if they penetrate the skin, may induce heritable genetic defects or increase their incidence.
- Reprotoxins (R): substances and preparations that, if inhaled, ingested, or if they penetrate the skin, may produce or increase the incidence of non-heritable adverse effects in the progeny and/or an impairment of male or female reproductive functions or capacity.<sup>24</sup>

#### **RT0101-14. Percentage of products by revenue that contain genetically modified organisms**

.54 The registrant shall disclose the percentage of its products by revenue that contain genetically modified organisms (GMOs), where:

- GMOs are defined as an organism, with the exception of human beings, in which the genetic material has been altered in a way that does not occur naturally by mating and/or natural recombination, consistent with EU Directive 2001/18/EC.

.55 The scope of disclosure includes GMOs that are defined by, or subject to, the following:

- EU Directive 2001/18/EC,
- Regulation EC 1829/2003,
- Maine HP 0490 LD 718,
- Vermont H. 112 Act 0120,
- Connecticut House Bill 6527, or
- Other U.S. state or federal regulation, as enacted.

<sup>23</sup> <http://www.businessdictionary.com/definition/persistent-bioaccumulative-and-toxic-PBT.html#ixzz3CTYf8qR2>

<sup>24</sup> <https://www.anses.fr/en/content/carcinogenic-mutagenic-and-reprotoxic-substances-cmrs>

.56 The percentage is calculated as the revenue from products that contain GMOs, divided by total revenue from all products.

**RT0101-15. Amount of legal and regulatory fines and settlements associated with product safety**

.57 The registrant shall disclose the amount (excluding legal fees) of all fines or settlements associated with incidents relating to product safety, including, but not limited to, violations of the Toxic Substances Control Act (TSCA), Federal Insecticide Fungicide and Rodenticide Act (FIFRA), Federal Hazardous Substances Act (FHSA), and Regulation (EC) No 1907/2006 (REACH).

.58 Disclosure shall include civil actions (e.g., civil judgment, settlements, or regulatory penalties) and criminal actions (e.g., criminal judgment, penalties, or restitutions) taken by any entity (government, businesses, or individuals).

**Note to RT0101-15**

.59 The registrant shall briefly describe the nature (e.g., consent decree, consent agreement, injunction, or sanction) and context (e.g., endangerment of human health, absence of product registration, lack of import and export certification, etc.) of fines and settlements.

.60 The registrant shall describe any corrective actions it has implemented as a result of each incident. These may include, but are not limited to, specific changes in operations, management, processes, products, business partners, training, or technology.

.61 All disclosure shall be sufficient such that it is specific to the risks the registrant faces, but disclosure itself will not compromise the registrant's ability to maintain data privacy and security.

**RT0101-16. Total addressable market and share of market for Green Chemistry-based products**

.62 The registrant shall provide an estimation of the total addressable market for chemical products that reduce pollution at the source by minimizing or eliminating the hazards of chemical feedstocks, reagents, solvents, and end-use products,<sup>25</sup> throughout all lifecycle stages of the value chain, including during materials sourcing, manufacturing, and/or product usage (hereafter, "Green Chemistry-based products").

- Total addressable market is defined as potential revenue (in billions of U.S. dollars), should the registrant capture 100 percent of the market share of the product category (e.g., the global market for reduced environmental impact building products).
- Green Chemistry is defined as the design of chemical products and processes that reduce or eliminate the use or generation of hazardous substances. Green Chemistry applies across the life cycle of a chemical product, including its design, manufacture, use, and ultimate disposal.<sup>26</sup>

.63 The scope of this disclosure includes products that reduce environmental impacts and improve resource efficiency throughout the value chain, including those products that reduce environmental impact beyond the footprint of the registrant's own operations. Examples include products whose attributes:

- Reduce energy consumption or increase energy efficiency for users, such as by providing improved fuel economy as compared to typical products (e.g. lightweight materials that improve fuel efficiency of automobiles).

<sup>25</sup> <http://www2.epa.gov/green-chemistry/basics-green-chemistry#twelve>

<sup>26</sup> <http://www2.epa.gov/green-chemistry/basics-green-chemistry#twelve>

- Reduce the amount of water required within the registrant's supplier's operations, own operations, or customer operations, as well as use of products by end user.
  - Reduce upstream impacts, such as use of renewable resources, or recycled materials in place of virgin materials.
  - Reduce downstream impacts, such as use of biodegradable chemicals.
  - Incorporate design innovations that lower carbon emissions during manufacturing, such as use of renewable fuels or advanced biofuels,<sup>27</sup> energy efficiency improvements, the use of materials requiring less processing, etc.
- .64 If there is a significant difference between the total addressable market and the market that the registrant can serve through its existing or planned capabilities, sales channels, or products (i.e., the serviceable available market) then the registrant should disclose this information.
- .65 The registrant shall disclose the share of the total addressable market for reduced environmental impact products that it currently captures with its products.
- Market share shall be calculated as revenues from these products divided by the size of the total addressable market.
- .66 The registrant may provide a projection of growth of this market, where the projected addressable market is represented—based on a reasonable set of assumptions about changes in market conditions—as a percentage of year-on-year growth, or as an estimate of the market size after a defined period (e.g., the market size in 10 years).
- The registrant may disclose its target three-year market share as a measurement of targeted growth, where the target is the percentage of the total addressable market that the registrant plans to address over a three-year time horizon.

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<sup>27</sup> Advanced biofuels are defined according to Section 201 of the Energy Independence and Security Act of 2007 (EISA) as biofuels other than ethanol derived from corn starch (kernels) and having 50% lower lifecycle greenhouse gas emissions relative to gasoline.

# Political Spending

## Description

Corporate political contributions and lobbying can have sustainability implications for a company and is currently under review by the SEC for disclosure. Within the Chemicals industry, corporate lobbying can influence environmental or human health regulations and legislation that pertain to the manufacture, use, and disposal of chemical substances. The interaction of companies in the Chemicals industry with their legal and regulatory environment can have material impacts on shareholder value, both when they spend significant amounts on related activities such as lobbying and political contributions, and as a result of changes in laws or policies that can have counterproductive long-term impacts. Given the increasing consumer interest in product transparency and health concerns related to chemical toxicity and GMOs, efforts to delay associated policy or legislative changes may prove counterproductive to the industry in the long term by creating regulatory uncertainty, and therefore investment uncertainty, or by imposing higher costs in the future. Efforts to influence environmental laws and regulations may affect companies' reputations and social license to operate. Companies with a well-articulated strategy for engaging with policymakers and regulators—one that is aligned with their goals and activities for long-term sustainable outcomes and also accounts for societal externalities—could benefit from a stronger, long-term license to operate. Such companies will likely be better prepared for medium- to long-term regulatory adjustments that deal with global, high-impact issues.

## Accounting Metrics

### **RT0101-17. Amount of political campaign spending, lobbying expenditures, and contributions to tax-exempt groups, including trade associations**

- .67 The registrant shall disclose its total monetary contributions to political campaigns, lobbyists or lobbying organizations, and tax-exempt groups, including trade associations that aim to influence political campaigns or participate in political lobbying
- .68 The scope of disclosure includes the following:
- Political spending, which includes any direct or indirect contributions or expenditures in support of, or opposition to, a candidate for public office or a ballot measure.
  - Any payments made to trade associations or tax-exempt entities that are used to influence a political campaign (including advocacy organizations, commonly classified as social welfare organizations under Section 501(c)(4) of the Internal Revenue Code, or business leagues, chambers of commerce, boards of trade, and similar organizations classified under Section 501(c)(6) of the Internal Revenue Code).
  - Any direct or indirect political expenditure (one-time or recurring) that must be reported to the Federal Election Commission, the Internal Revenue Service, or a state disclosure agency.
  - Any direct or indirect contributions to registered lobbyists or lobbying organizations, including contributions made to trade organizations that contribute to political lobbying efforts.

**RT0101-18. Five largest political, lobbying, or tax-exempt group expenditures**

- .69 The registrant shall disclose the recipients of its five largest contributions disclosed in RT0101-17, defined as the five largest amounts in aggregate during the fiscal year that were contributed to an individual candidate, organization, ballot measure, or lobbying issue topic.
- .70 The registrant shall disclose the amount (in U.S. dollars) contributed to each individual, organization, ballot measure, or lobbying issue topic.
- .71 The registrant shall consider lobbying issue topics, at a minimum, to be general lobbying issue codes defined by The Lobbying Disclosure Act of 1995, but should include specific lobbying issues where available.

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# Operational Safety, Emergency Management & Response

## Description

Technical failure, human error, or external factors, such as weather, can lead to accidental releases of chemical substances into the environment at processing facilities or during storage and transportation. Furthermore, the combustible nature of common chemicals, such as ammonium nitrate, contributes to the risk of fires and explosions. Companies with poor accident and safety management performance may face disruption to operations and increased compliance and remediation costs. Poor management of the issue can increase contingent liabilities and damage reputation. A strong safety culture and a thorough, systematic approach to safety, risk management, (including emergency preparedness and response), and operational integrity are essential to avoiding accidents.

## Accounting Metrics

### RT0101-19. Process Safety Incidents Count (PSIC), Process Safety Total Incident Rate (PSTIR), Process Safety Incident Severity Rate (PSISR)

.72 The registrant shall disclose its process safety performance using the following rates,<sup>28</sup> consistent with the process safety reporting element of the American Chemistry Council's (ACC) Responsible Care program, where:

- Process Safety Incidents Count (PSIC) reflects the total (annual) count of all incidents that meet the definition of a Tier 1 PSI per ANSI / API RP 754.
- Process Safety Total Incident Rate (PSTIR) reflects the cumulative (annual) count of incidents normalized by man hours. The PSTIR is calculated as the PSIC multiplied by 200,000, divided by the total annual hours worked by employees and contractors.
- Process Safety Incident Severity Rate (PSISR) reflects the cumulative (annual) severity-weighted rate of process safety incidents. The PSISR is calculated as the Total Severity Score for all Process Safety Incidents multiplied by 200,000, divided by the total annual hours worked by employees, contractors, and subcontractors.

.73 The scope of disclosure includes Process Safety Incidents occurring at company-owned or operated facilities.

.74 The registrant may choose to disclose the same incident rates for Tier 2 Process Safety Events, as defined by ANSI / API RP 754 and Center for Chemical Process Safety's, "Process Safety Leading and Lagging Metrics."

.75 The registrant should describe incidents with a severity rating of 1 or 2, including their root cause, outcomes, and corrective actions implemented in response (e.g., technology improvements, operator training, etc.).

### RT0101-20. Challenges to the Safety Systems indicator rate (Tier 3)

.76 The registrant shall disclose a rate of Tier 3 "challenges to safety systems" using terms, definitions, and guidance from the ANSI/API RP-754 (Section 7.2).

.77 Tier 3 indicators may alternatively be referred to as "near miss" events or "high learning value" events.

.78 A Tier 3 operational situation is defined as a flaw or weakness within internal technical safety systems that led to consequences that fall below the Tier 1 and Tier 2 LOPC impact threshold, such as:

<sup>28</sup> These process safety metrics are further defined in the Center for Chemical Process Safety's, "Process Safety Leading and Lagging Metrics," which can be found at: [http://www.aiche.org/sites/default/files/docs/pages/CCPS\\_ProcessSafety\\_Lagging\\_2011\\_2-24.pdf](http://www.aiche.org/sites/default/files/docs/pages/CCPS_ProcessSafety_Lagging_2011_2-24.pdf)

- Demands on safety systems, which are activations (non-manual) of safety systems designed to prevent or mitigate impacts from losses of primary containment, such as mechanical shutdown equipment or pressure relief devices.
- Safe operating limit excursions, which are breaches of safe operating limits for processes beyond which manual or automatic systems return the process to a predetermined safe state.
- Primary containment inspections or testing results outside acceptable limits, which occur when inspection or testing shows that safe primary containment operating limits have been exceeded and require repairs, replacement, or further testing of equipment.
- Near miss incidents, which are incidents that had the potential to result in an LOPC, but that were avoided by circumstance.

.79 Disclosure may include situations with no actual consequences but the recognition that, in other circumstances, further barriers could have been breached and resulted in a Tier 1 or Tier 2 PSE.

.80 The Tier 3 indicator rate shall be calculated as: (Total Tier 3 Indicator Count / Total Hours Worked) \* 200,000.

.81 Total hours worked includes employees and contractors.

#### **RT0101-21. Number of transport incidents**

.82 The registrant shall disclose the total number of transport incidents, where transport incidents are defined consistent with national regulations:

- For operations in the US, transport incidents are those that require a U.S. Department of Transportation 5800 report,<sup>29</sup>
- For operations in the EU, transport incidents are those that require a report based on the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) criteria, or
- For operations in other jurisdictions, transport incidents are defined in accordance with the nationally recognized definition, consistent with the International Council of Chemical Association's (ICCA) Guidance for Reporting Performance.

.83 Where a national definition does not exist, a reportable transport incident arises, irrespective of the chemical products contribution, when one of the following has occurred, consistent with the ICCA Guidance for Reporting Performance:

- A death or injury leading to intensive medical treatment, a stay in hospital of at least one day, or leading to an absence from work of more than three days.
- Any release of more than 50 kg/L of dangerous goods or more than 1,000 kg/L of non-dangerous goods.
- Any damage of more than 50,000 Euro (including environmental cleanup) resulting from a transport incident.
- An incident leading to direct involvement of authorities and/or emergency services, evacuation of

<sup>29</sup> <http://www.ecfr.gov/cgi-bin/text-idx?SID=cb07d6f704eee4d54948aff3ac7004bf&node=se49.2.171.116&rgn=div8>

people, or closure of public traffic routes for at least three hours.

.84 Registrants should report distribution incidents for all modes of product transport (e.g. road, rail, ship, etc.).

.85 The scope of disclosure includes all distributions for which the registrant has direct oversight, and those contracted by the registrant to a third party (i.e. Tier 1 contracts).

**Note to RT0101-21**

.86 The registrant shall describe transport incidents, including their root cause, outcomes, and corrective actions implemented in response (e.g., technology improvements, driver training, etc.).

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**SUSTAINABILITY ACCOUNTING STANDARDS BOARD®**

75 Broadway, Suite 202  
San Francisco, CA 94111  
415.830.9220  
info@sasb.org

[www.sasb.org](http://www.sasb.org)



SUSTAINABILITY ACCOUNTING STANDARD  
RESOURCE TRANSFORMATION SECTOR

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# AEROSPACE & DEFENSE

## Sustainability Accounting Standard

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Sustainable Industry Classification System™ (SICS™) #RT0201

Prepared by the  
Sustainability Accounting Standards Board®

OCTOBER 2014  
EXPOSURE DRAFT FOR PUBLIC COMMENT

# AEROSPACE & DEFENSE

## Sustainability Accounting Standard

### About SASB

The Sustainability Accounting Standards Board (SASB) provides sustainability accounting standards for use by publicly listed corporations in the U.S. in disclosing material sustainability information for the benefit of investors and the public. SASB standards are designed for disclosure in mandatory filings to the Securities and Exchange Commission (SEC), such as the Form 10-K and 20-F. SASB is an independent 501(c)3 nonprofit organization. Through 2016, SASB is developing standards for more than 80 industries in 10 sectors.

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### SUSTAINABILITY ACCOUNTING STANDARDS BOARD

75 Broadway, Suite 202  
San Francisco, CA 94111  
415.830.9220

[info@sasb.org](mailto:info@sasb.org)

[www.sasb.org](http://www.sasb.org)

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# INTRODUCTION

## Purpose & Structure

This document contains the SASB Sustainability Accounting Standard (SASB Standard) for the Aerospace & Defense industry.

SASB Standards are comprised of **(1) disclosure guidance and (2) accounting standards on sustainability topics** for use by U.S. and foreign public companies in their annual filings (Form 10-K or 20-F) with the U.S. Securities and Exchange Commission (SEC). To the extent relevant, SASB Standards may also be applicable to other periodic mandatory filings with the SEC, such as the Form 10-Q, Form S-1, and Form 8-K.

SASB's disclosure guidance identifies sustainability topics at an industry level, which may be material— depending on a company's specific operating context— to a company within that industry.

Each company is ultimately responsible for determining which information is material and is therefore required to be included in its Form 10-K or 20-F and other periodic SEC filings.

SASB's accounting standards provide companies with standardized accounting metrics to account for performance on industry-level sustainability topics. When making disclosure on sustainability topics, companies adopting SASB's accounting standards will help to ensure that disclosure is standardized, and therefore useful, relevant, comparable, and auditable.

## Industry Description

Companies in the Aerospace & Defense industry can be broken down into three main categories: (1) commercial aircraft manufacturing and aircraft parts, (2) aerospace and defense parts manufacturing, and (3) defense primes, which includes the manufacturing of military aircraft, space vehicles, missile systems, ammunition, small arms, naval ships and other commercial and military vehicles. Aerospace and defense companies operate globally and serve both international and domestic customers. Depending on which subset of the industry a company operates in, it may have different customers. Commercial aircraft manufacturers sell mainly to commercial airlines, as well as U.S. and foreign governments. Aerospace and defense parts manufacturers have a similar customer base, but their balance shifts the other way, selling mainly to governments and defense operations. Finally, defense primes' customers consist of various agencies of the U.S. government and related businesses with operations around the world. The defense prime category also includes firearms manufacturers, such as Smith & Wesson, which sell to law enforcement agencies, businesses, distributors, retailers, and consumers. Companies will have to navigate key industry trends, including: safety, fuel economy, emissions control, noise control, chemical use, and compliance with regulations related to government contracting and international trade.

# Guidance for Disclosure of Material Sustainability Topics in SEC Filings

## 1. Industry-Level Sustainability Disclosure Topics

For the Aerospace & Defense industry, SASB has identified the following sustainability disclosure topics:

Hazardous Materials Management	Materials Efficiency
Data Security	Business Ethics
Product Safety	Supply Chain Management & Materials Sourcing
Fuel Economy & Use-phase Emissions	

## 2. Company-Level Determination and Disclosure of Material Sustainability Topics

Sustainability disclosures are governed by the same laws and regulations that govern disclosures by securities issuers generally. According to the U.S. Supreme Court, a fact is material if, in the event such fact is omitted from a particular disclosure, there is “a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the ‘total mix’ of the information made available.”<sup>1,2</sup>

SASB has attempted to identify those sustainability topics that it believes may be material for all companies within each SICS industry. SASB recognizes, however, that each company is ultimately responsible for determining what is material to it.

Regulation S-K, which sets forth certain disclosure requirements associated with Form 10-K and other SEC filings, requires companies, among other things, to describe in the Management’s Discussion and Analysis of Financial Condition and Results of Operations (MD&A) section of Form 10-K “any known trends or uncertainties that have had or that the registrant reasonably expects will have a material favorable or unfavorable impact on net sales or revenues or income from continuing operations. If the registrant knows of events that will cause a material change in the relationship between costs and revenues (such as known future increases in costs of labor or materials or price increases or inventory adjustments), the change in the relationship shall be disclosed.”<sup>2</sup>

Furthermore, Instructions to Item 303 state that the MD&A “shall focus specifically on material events and uncertainties known to management that would cause reported financial information not to be necessarily indicative of future operating results or of future financial condition.”<sup>2</sup>

In determining whether a trend or uncertainty should be disclosed, the SEC has stated that management should use a two-part assessment based on probability and magnitude:

First, a company is not required to make disclosure about a known trend or uncertainty if its management determines that such trend or uncertainty is not reasonably likely to occur.

Second, if a company’s management cannot make a reasonable determination of the likelihood of an event or uncertainty, then disclosure is required unless management determines that a material effect on the registrant’s financial condition or results of operation is not reasonably likely to occur.

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<sup>1</sup> TSC Industries v. Northway, Inc., 426 U.S. 438 (1976).

<sup>2</sup> C.F.R. 229.303(item 303)(a)(3)(ii).

### 3. Sustainability Accounting Standard Disclosures in Form 10-K

#### a. Management's Discussion and Analysis

Companies should consider making disclosure on sustainability topics as a complete set in the MD&A, in a subsection titled **"Sustainability Accounting Standards Disclosures."**<sup>3</sup>

#### b. Other Relevant Sections of Form 10-K

In addition to the MD&A section, companies should consider disclosing sustainability information in other sections of Form 10-K, as relevant, including:

**Description of business**—Item 101 of Regulation S-K requires a company to provide a description of its business and its subsidiaries. Item 101(c)(1)(xii) expressly requires disclosure regarding certain costs of complying with environmental laws:

Appropriate disclosure also shall be made as to the material effects that compliance with Federal, State and local provisions which have been enacted or adopted regulating the discharge of materials into the environment, or otherwise relating to the protection of the environment, may have upon the capital expenditures, earnings and competitive position of the registrant and its subsidiaries.

**Legal proceedings**—Item 103 of Regulation S-K requires companies to describe briefly any material pending or contemplated legal proceedings. Instructions to Item 103 provide specific disclosure requirements for administrative or judicial proceedings arising from laws and regulations that target discharge of materials into the environment or that are primarily for the purpose of protecting the environment.

**Risk factors**—Item 503(c) of Regulation S-K requires filing companies to provide a discussion of the most significant factors that make an investment in the registrant speculative or risky, clearly stating the risk and specifying how a particular risk affects the particular filing company.

#### c. Rule 12b-20

Securities Act Rule 408 and Exchange Act Rule 12b-20 require a registrant to disclose, in addition to the information expressly required by law or regulation, "such further material information, if any, as may be necessary to make the required statements, in light of the circumstances under which they are made, not misleading."

More detailed guidance on disclosure of material sustainability topics can be found in the **SASB Conceptual Framework**, available for download via <http://www.sasb.org/approach/conceptual-framework/>.

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<sup>3</sup> SEC [Release Nos. 33-8056; 34-45321; FR-61] [Commission Statement about Management's Discussion and Analysis of Financial Condition and Results of Operations](#): "We also want to remind registrants that disclosure must be both useful and understandable. That is, management should provide the most relevant information and provide it using language and formats that investors can be expected to understand. Registrants should be aware also that investors will often find information relating to a particular matter more meaningful if it is disclosed in a single location, rather than presented in a fragmented manner throughout the filing."

# Guidance on Accounting of Material Sustainability Topics

For sustainability disclosure topics in the Aerospace & Defense industry, SASB identifies accounting metrics.

SASB recommends that each company consider using these sustainability accounting metrics when disclosing its performance with respect to each of the sustainability topics it has identified as material.

As appropriate—and consistent with Rule 12b-20<sup>4</sup>—for each sustainability topic, companies should consider including a narrative description of any material factors necessary to ensure completeness, accuracy, and comparability of the data reported. Where not addressed by the specific accounting metrics, but relevant, the registrant should discuss the following, related to the topic:

- The registrant's **strategic approach** to managing performance on material sustainability issues;

- The registrant's competitive positioning;

- The **degree of control** the registrant has;

- Any measures the registrant has undertaken or plans to undertake to improve performance; and

- Data for the registrant's **last three completed fiscal years** (when available).

SASB recommends that registrants use SASB Standards specific to their primary industry as identified in the [Sustainable Industry Classification System \(SICS™\)](#). If a registrant generates significant revenue from multiple industries, SASB recommends that it consider the materiality of the sustainability issues that SASB has identified for those industries and disclose the associated SASB accounting metrics.

## Users of the SASB Standards

The SASB Standards are intended for companies that engage in public offerings of securities registered under the Securities Act of 1933 (the Securities Act) and those that issue securities registered under the Securities Exchange Act of 1934 (the Exchange Act),<sup>5</sup> for use in SEC filings, including, without limitation, annual reports on Form 10-K (Form 20-F for foreign issuers), quarterly reports on Form 10-Q, current reports on Form 8-K, and registration statements on Forms S-1 and S-3. Nevertheless, disclosure with respect to the SASB Standards is not required or endorsed by the SEC or other entities governing financial reporting, such as FASB, GASB, or IASB.

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<sup>4</sup> SEC Rule 12b-20: "In addition to the information expressly required to be included in a statement or report, there shall be added such further material information, if any, as may be necessary to make the required statements, in the light of the circumstances under which they are made, not misleading."

<sup>5</sup> Registration under the Securities Exchange Act of 1934 is required (1) for securities to be listed on a national securities exchange, such as the New York Stock Exchange, the NYSE Amex, and the NASDAQ Stock Market, or (2) if (A) the securities are equity securities, and are held by more than 2,000 persons (or 500 persons who are not accredited investors) and (B) the company has more than \$10 million in assets.

# Scope of Disclosure

Unless otherwise specified, SASB recommends:

That a registrant disclose on sustainability issues and metrics for itself and for entities in which the registrant has a controlling interest and therefore are consolidated for financial reporting purposes (controlling interest is generally defined as ownership of 50% or more of voting shares);<sup>6</sup>

That for consolidated entities, disclosures be made, and accounting metrics calculated, for the whole entity, regardless of the size of the minority interest; and

That information from unconsolidated entities not be included in the computation of SASB accounting metrics. A registrant should disclose, however, information about unconsolidated entities to the extent that the registrant considers the information necessary for investors to understand its performance with respect to sustainability issues (typically, this disclosure would be limited to risks and opportunities associated with these entities).

## Reporting Format

### Activity Metrics and Normalization

SASB recognizes that normalizing accounting metrics is important for the analysis of SASB disclosures.

SASB recommends that a registrant disclose any basic business data that may assist in the accurate evaluation and comparability of disclosure, to the extent that they are not already disclosed in the Form 10-K (e.g., revenue, EBITDA, etc.).

Such data—termed “activity metrics”—may include high-level business data, such as total number of employees, quantity of products produced or services provided, number of facilities, or number of customers. It may also include industry-specific data, such as plant capacity utilization (e.g., for specialty chemical companies), number of transactions (e.g., for Internet media and services companies), hospital bed days (e.g., for health care delivery companies), or proven and probable reserves (e.g., for oil and gas exploration and production companies).

Activity metrics disclosed should:

Convey contextual information that would not otherwise be apparent from SASB accounting metrics.

Be deemed generally useful for users of SASB accounting metrics (e.g., investors) in performing their own calculations and creating their own ratios.

Be explained and consistently disclosed from period to period to the extent they continue to be relevant. However, a decision to make a voluntary disclosure in one period does not obligate a continuation of that disclosure if it is no longer relevant or if a better metric becomes available.

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<sup>6</sup> See U.S. GAAP consolidation rules (Section 810).  
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Where relevant, SASB recommends specific activity metrics that—at a minimum—should accompany SASB accounting metric disclosures.

ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE
Number of units produced by product category <sup>7</sup>	Quantitative	Number	RT0201-A
Number of employees, percentage in manufacturing role	Quantitative	Number, Percentage (%)	RT0201-B

## Units of Measure

Unless specified, disclosures should be reported in International System of Units (SI units).

## Uncertainty

SASB recognizes that there may be inherent uncertainty when disclosing certain sustainability data and information. This may be related to variables such as the imperfectness of third-party reporting systems or the unpredictable nature of climate events. Where uncertainty around a particular disclosure exists, SASB recommends that the registrant should consider discussing its nature and likelihood.

## Estimates

SASB recognizes that scientifically-based estimates, such as the reliance on certain conversion factors or the exclusion of *de minimis* values, may be necessary for certain quantitative disclosures. Where appropriate, SASB does not discourage the use of such estimates. When using an estimate for a particular disclosure, SASB expects that the registrant discuss its nature and substantiate its basis.

## Timing

Unless otherwise specified, disclosure shall be for the registrant's fiscal year.

## Limitations

There is no guarantee that SASB Standards address all sustainability impacts or opportunities associated with a sector, industry, or company, and therefore, a company must determine for itself the topics—sustainability-related or otherwise—that warrant discussion in its SEC filings.

Disclosure under SASB Standards is voluntary. It is not intended to replace any legal or regulatory requirements that may be applicable to user operations. Where such laws or regulations address legal or regulatory topics, disclosure under SASB Standards is not meant to supersede those requirements. Disclosure according to SASB Standards shall not be construed as demonstration of compliance with any law, regulation, or other requirement.

SASB Standards are intended to be aligned with the principles of materiality enforced by the SEC. However, SASB is not affiliated with or endorsed by the SEC or other entities governing financial reporting, such as FASB, GASB, or IASB.

<sup>7</sup> Note to RT0201-A – The registrant shall indicate the number of units produced during the fiscal year whether they were manufactured in its own facilities or they were produced by contract manufacturers or suppliers. Disclosure shall be made for each of the following production categories that apply, which correspond to Level 4 of the Bloomberg Industry Classification System (BICS) as mapped to the Resource Transformation sector in the Sustainable Industry Classification System (SICS): Aircraft Parts Manufacturing, Military Armored Vehicle/Tank Manufacturing, Military Aircraft Manufacturing, Missile & Space Vehicle Manufacturing, Munitions and Small Arms Manufacturing, Naval Ship Building, Rotary Wing Aircraft—Commercial..

# Forward-looking Statements

Disclosures on sustainability topics can involve discussion of future trends and uncertainties related to the registrant's operations and financial condition, including those influenced by external variables (e.g., environmental, social, regulatory, and political). Companies making such disclosures should familiarize themselves with the safe harbor provisions of Section 27A of the Securities Act and Section 21E of the Exchange Act, which preclude civil liability for material misstatements or omissions in such statements if the registrant takes certain steps, including, among other things, identifying the disclosure as "forward-looking" and accompanying such disclosure with "meaningful cautionary statements identifying important factors that could cause actual results to differ materially from those in the forward-looking statements."

## Assurance

In disclosing to SASB Standards, it is expected that registrants disclose with the same level of rigor, accuracy, and responsibility as they apply to all other information contained in their SEC filings.

SASB encourages registrants to use independent assurance (attestation); for example, an Examination Engagement to AT Section 101.

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# Table 1. Sustainability Disclosure Topics & Accounting Metrics

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	CODE
<b>Hazardous Materials Management</b>	Amount of hazardous waste, percentage recycled	Quantitative	Tons (t), Percentage (%)	RT0201-01
	Number and aggregate quantity of reportable releases and spills, quantity recovered	Quantitative	Number, Kilograms (kg)	RT0201-02
<b>Data Security</b>	Number of data security breaches and percentage involving customers' confidential business information or sensitive national security information <sup>8</sup>	Quantitative	Number, Percentage (%)	RT0201-03
	Discussion of management approach to identifying and addressing data security risks within (a) company operations and (b) products	Discussion and Analysis	n/a	RT0201-04
<b>Product Safety</b>	Number of recalls and total units recalled <sup>9</sup>	Quantitative	Number	RT0201-05
	Amount of legal and regulatory fines and settlements associated with product safety <sup>10</sup>	Quantitative	U.S. Dollars (\$)	RT0201-06
	Revenue from production of controversial weapons or key components of controversial weapons	Quantitative	U.S. Dollars (\$)	RT0201-07
<b>Fuel Economy &amp; Use-phase Emissions</b>	Fleet fuel efficiency for: (1) terrestrial vehicles, (2) ships and marine systems, and (3) aircraft and other aerospace vehicles, for (a) passenger and (b) cargo vehicle types	Quantitative	Gallons per mile (gal/mile), Gallons per ton-mile (gal/ton-mile), 1/SAR	RT0201-08
	Revenue from alternative fuel vehicles	Quantitative	U.S. Dollars (\$)	RT0201-09
<b>Materials Efficiency</b>	Percentage of products from remanufactured or reused parts	Quantitative	Percentage (%)	RT0201-10
	Amount of waste, percentage recycled	Quantitative	Tons (t), Percentage (%)	RT0201-11
	Ratio of weight of high value metals procured to the weight utilized in finished goods	Quantitative	Ratio	RT0201-12

<sup>8</sup> Note to RT0201-03 – Disclosure shall include a description of the corrective actions taken in response to specific incidents.

<sup>9</sup> Note to RT0201-05 – Disclosure shall include a discussion of notable recalls, such as those that affected a significant number of units of one model or those related to a serious injury or fatality.

<sup>10</sup> Note to RT0201-06 – Disclosure shall include a description of fines and settlements and corrective actions implemented in response to events.

## Table 1. Sustainability Disclosure Topics & Accounting Metrics (cont.)

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	CODE
<b>Business Ethics</b>	Description of the management system for prevention of corruption and bribery, throughout the value chain, including disclosure of highest risk areas	Discussion and Analysis	n/a	RT0201-13
	Amount of legal and regulatory fines and settlements associated with charges of bribery or corruption <sup>11</sup>	Quantitative	U.S. Dollars (\$)	RT0201-14
	Amount of legal and regulatory fines and settlements associated with violations of export control regulations <sup>12</sup>	Quantitative	U.S. Dollars (\$)	RT0201-15
<b>Supply Chain Management &amp; Materials Sourcing</b>	Number of counterfeit parts, percentage avoided	Quantitative	Number, Percentage (%)	RT0201-16
	Percentage of materials costs for items containing critical materials	Quantitative	Percentage (%) by COGS	RT0201-17
	Percentage of tungsten, tin, tantalum, and gold smelters within the supply chain that are verified conflict-free	Quantitative	Percentage (%)	RT0201-18
	Discussion of the management of risks associated with the use of critical materials and conflict minerals	Discussion and Analysis	n/a	RT0201-19

<sup>11</sup> Note to RT0201-14 – Disclosure shall include a description of fines and settlements and corrective actions implemented in response to events.

<sup>12</sup> Note to RT0201-15 – Disclosure shall include a description of fines and settlements and corrective actions implemented in response to events.

# Hazardous Materials Management

## Description

The manufacturing of aircraft and defense equipment generates hazardous waste that must be properly managed according to EPA and other regulatory guidelines. For example, the Resource Conservation and Recovery Act (RCRA), regulates generation, transport, treatment, storage, and disposal of hazardous and solid waste. Hazardous wastes generated by manufacturing include metals, spent acids, caustics, solid catalysts, and wastewater treatment sludge. Proper processing and disposal of hazardous waste materials is essential to limiting risk of remediation liabilities, fines, regulations, and possible loss of contracts. In addition, companies that are able to limit the waste of input materials and recycle the waste generated may achieve significant cost savings and improve profitability.

## Accounting Metrics

### RT0201-01. Amount of hazardous waste, percentage recycled

.01 The amount of hazardous waste shall be calculated in metric tons, where:

- Waste is generally defined as anything for which the registrant has no further use and which would otherwise be discarded or released to the environment.
- Hazardous waste includes any Subtitle C Hazardous Waste as defined by the Resource Conservation and Recovery Act (RCRA) (40 CFR § 261). Hazardous wastes include those that display the following characteristics: ignitability, corrosivity, reactivity, or toxicity.

.02 The percentage recycled shall be calculated as the weight of waste material that was reused, plus the weight recycled, reclaimed, or remanufactured (through treatment or processing) by the registrant, plus the amount sent externally for further reuse, recycling, or remanufacturing, divided by the total weight of waste material, where:

- A hazardous waste is recycled if it is used, reused, or reclaimed. Furthermore, RCRA hazardous waste regulation makes an important distinction between materials that are used or reused without reclamation, and those that must be reclaimed before reuse. A material is *reclaimed* if it is processed to recover a usable product, or if it is regenerated. Common hazardous waste reclamation activities involve recovery of spent solvents (e.g., recovery of acetone) or metals (e.g., recovery of lead).<sup>13</sup>
- Reused materials are defined as those recovered products or components of products that are used for the same purpose for which they were conceived.
- Recycled and remanufactured materials are defined as waste materials that have been reprocessed or treated by means of production or manufacturing processes and made into a final product, or made into a component for incorporation into a product.
- 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).

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<sup>13</sup> <http://www.epa.gov/solidwaste/hazard/recycling/index.htm>

- Portions of products and materials that are disposed of in landfills are not considered recycled; only the portions of products that are directly incorporated into new products, co-products, or by-products shall be included in the percentage recycled.
- Materials sent for further recycling include those materials that are transferred to a third party for the expressed purpose of reuse, recycling, or refurbishment.
- Materials incinerated, including for energy recovery, are not considered reused or recycled. Energy recovery is defined as the use of combustible waste as a means to generate energy through direct incineration, with or without other waste, but with recovery of the heat.

.03 Electronic waste material (e-waste) shall be considered recycled only if the registrant can demonstrate that this material was transferred to entities with third-party certification to a standard for e-waste recycling, such as Basel Action Network's e-Steward® standard or the U.S. EPA's Responsible Recycling Practices (R2) standard.

- The registrant shall disclose the standard(s) to which the entities it has transferred e-waste are compliant.

#### **RT0201-02. Number and aggregate quantity of reportable releases and spills, quantity recovered**

.04 The registrant shall disclose the total number and quantity (in kilograms) of reportable releases, where:

- Reportable releases are defined as any release of a hazardous substance in an amount equal to or greater than the reportable quantity defined by the U.S. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
- The number of releases shall represent any spills, leaks, emissions, discharges, injections, disposals, and abandonment releases over time, counted once at the time identified, consistent with CERCLA.
- The aggregate quantity reported shall represent the total estimated quantity released that reached the environment, and shall not be reduced by the amount of such hazardous substance subsequently recovered, evaporated, or otherwise lost, consistent with CERCLA.<sup>14</sup>

.05 The registrant may choose to disclose releases to soil and water separately. A release that qualifies as a release to both soil and water should be reported as a single release to water, with the volume properly apportioned to soil and water.

.06 The registrant shall calculate the quantity of releases recovered as the quantity of released hazardous substances (in kilograms) removed from the environment through short-term release response activities, excluding:

- Amounts that were recovered during longer-term remediation at spill sites.
- Amounts that evaporated, burned, or were dispersed.

<sup>14</sup> <http://www.epa.gov/superfund/policy/release/rq/index.htm#info>

# Data Security

## Description

Companies in the Aerospace & Defense industry have access to highly classified information and play a critical role in the execution and protection of military strategy. As such, companies in this industry are prime targets for hackers motivated to gain military secrets. A data security breach can be costly for a company, their clients, and the public when government operations are compromised. This issue also applies to aircraft manufacturers as technological advances may leave aircraft susceptible to cyber attackers. Ensuring data security may require aerospace and defense companies to increase CapEx in the short- to medium-term in order to improve the security of their facilities, or invest in research and development to improve the security of products. Significant disruptions or security breaches are also likely to impair intangible assets through reputational damage, and lead to a loss in customer confidence. Subsequently, companies could lose market share and revenue as customers switch to less risky service providers.

## Accounting Metrics

### **RT0201-03. Number of data security breaches and percentage involving customers' confidential business information or classified national security information**

- .07 The registrant shall calculate and disclose the total number of data security breaches, which are defined as instances of unauthorized acquisition, access, use, or disclosure of protected information.
- .08 The scope of disclosure shall be limited to data security breaches, cyber security risks, and incidents that resulted in the registrant's business processes deviating from its expected outcomes for confidentiality, integrity, and availability.
- The scope of disclosure shall include incidents of unauthorized acquisition or acquisition without valid authorization, resulting from people, process, or technology deficiencies or failures.
  - The scope of disclosure shall exclude disruptions of service due to equipment failures.
- .09 The registrant shall disclose the percentage of data security breaches in which customers' confidential business information or classified national security information was breached, where:
- Confidential Business Information (CBI) is defined as information that concerns or relates to the trade secrets, processes, operations, identification of customers, inventories, or other information of commercial value, the disclosure of which is likely to have the effect of causing substantial harm to the competitive position of the person, firm, partnership, or corporation from which the information was obtained.<sup>15</sup> The term "confidential business information" includes "proprietary information" within the meaning of section 777(b) of the Tariff Act of 1930 ([19 U.S.C. 1677f\(b\)](#)).
  - Classified national security information is defined as information that has been determined pursuant to Executive Order 13526 or any predecessor order to require protection against unauthorized disclosure and is marked to indicate its classified status when in documentary form.<sup>16</sup>
  - The scope of disclosure is limited to breaches in which customers were notified of the breach, either as required contractually or by law, or disclosures made voluntarily by the registrant.

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<sup>15</sup> 19 CFR 201.6

<sup>16</sup> Executive Order 13526- Classified National Security Information, available online: <http://www.whitehouse.gov/the-press-office/executive-order-classified-national-security-information>

- Disclosure shall include incidents in which encrypted data were acquired with an encryption key that was also acquired.
- The registrant may delay disclosure if a government agency or law enforcement agency has determined that notification of the breach impedes a criminal investigation until the agency determines that such notification does not compromise such investigation.

.10 Disclosure shall be additional but complementary to the U.S. Security and Exchange Commission's (SEC) [CF Disclosure Guidance: Topic No. 2, Cybersecurity](#).

- At a minimum, this includes instances when the costs or other consequences associated with one or more known incidents – or the risk of potential incidents – represents a material event, trend, or uncertainty that is reasonably likely to have a material effect on the registrant's results of operations, liquidity, or financial condition, or would cause reported financial information not to be necessarily indicative of future operating results or financial condition (e.g., theft of intellectual property, reduced revenue, increased cybersecurity protection expenditure, litigation costs, etc.).

Note to **RT0201-03**.

.11 The registrant shall describe the corrective actions taken in response to specific incidents, such as changes in operations, management, processes, products, business partners, training, or technology.

.12 All disclosure shall be sufficient such that it is specific to the risks the registrant faces, but disclosure itself will not compromise the registrant's ability to maintain data privacy and security.

**RT0201-04. Discussion of management approach to identifying and addressing data security risks within (a) company operations and (b) products**

.13 The registrant shall discuss its management approach to identifying and addressing data security risks in both its own operations, as well as the data security risks associated with its products.

.14 For data security risks within company operations, the registrant shall identify vulnerabilities in its information systems that pose a data security threat, where:

- A data security threat is defined as any circumstance or event with the potential to adversely impact organizational operations (including mission, functions, image, or reputation), organizational assets, individuals, other organizations, or national security through an information system via unauthorized access, destruction, disclosure, or modification of information, and/or denial of service.
- Vulnerability is defined as a weakness in an information system, system security procedures, internal controls, or implementation that could be exploited by a data security threat source.

.15 The registrant shall describe how it addresses the threats and vulnerabilities it has identified, including but not limited to, through operational procedures, management processes, structure of products, selection of business partners, employee training, or use of technology.

.16 The registrant should discuss trends it has observed in type, frequency, and origination of attacks to its data security and information systems.

.17 Disclosure shall be additional but complementary to the disclosure of preparation, detection, containment, and post-incident activity according to the U.S. Security and Exchange Commission's (SEC) [CF Disclosure Guidance: Topic No. 2, Cybersecurity](#).

- At a minimum this includes when the costs or other consequences associated with one or more known incidents – or the risk of potential incidents – represents a material event, trend, or uncertainty that is reasonably likely to have a material effect on the registrant's results of operations, liquidity, or financial

condition or would cause reported financial information not to be necessarily indicative of future operating results or financial condition (e.g., reduced revenue, increased cybersecurity protection expenditure, litigation costs, etc.).

- .18 All disclosure shall be sufficient such that it is specific to the risks the registrant faces but disclosure itself would not compromise the registrant's ability to maintain data privacy and security.
- .19 The registrant may choose to describe the degree to which its management approach is aligned with an external standard or framework for managing data security, such as:
  - ISO/IEC 27001:2013 – Information technology – Security techniques – Information security management systems – Requirements
  - [“Framework for Improving Critical Infrastructure Cybersecurity, Version 1.0,”](#) February 12, 2014, National Institute of Standards and Technology (NIST).
- .20 For data security risks within products, the registrant shall discuss its strategic approach to managing data security risks to its products.
  - Discussion shall focus on all stages of the product lifecycle, as relevant, including product design, the manufacturing supply chain, product distribution, the product use phase, and end-of-life management.
- .21 The registrant should discuss how it identifies and mitigates data security risks that may be present within the manufacturing supply chain, where:
  - Examples of data security risks in the supply chain may include, but are not limited to, weaknesses in supplier information systems, risk of “backdoors” being inserted into products, or counterfeit products, components, or parts that create a data security risk.
  - Examples of mitigation strategies may include, but are not limited to, hardware-based security considerations integrated into the product design and development process, management systems required of suppliers, the use of cyber security specialists, “ethical hacking,” and supply chain controls.
- .22 The registrant should discuss how it manages security flaws, bugs, and systems weaknesses that are detected in its products after they have been sold and are in use.
  - Disclosure should include a discussion of the effects of such incidents, including costs for remediation and impacts on future business.
  - Disclosure should include a discussion of the management process for corrective actions.
- .23 Where relevant, the registrant should describe its products and services that specifically enable enhanced data security for customers or features that it integrates into existing products to specifically enhance data security.
- .24 Examples of security-related products and services include hardware-based encryption products, multi-factor authentication devices (such as security tokens or biometric scanners), information assurance systems, secure communications systems, intelligence-driven computer network defense systems, penetration testing, and threat monitoring.

# Product Safety

## Description

Aerospace and defense products expose users and civilians to dramatic risk, through either the low probability, but high impact, of product malfunctions or the civilian casualties of weapon use. Defense companies and nation states can experience significant reputational risk as a result of their involvement with controversial weapons. Actions against defense companies involved in the manufacturing of controversial weapons have included treaties and conventions aimed at eliminating their usage, as well as divestment and refusal to provide financial services. At the same time, for commercial aircraft manufacturing and parts companies, passenger safety is paramount. Through proper design, as well as ongoing customer engagement involving maintenance and accident investigations, companies in this industry can position themselves for top performance. Companies with poor product quality and safety may experience revenue loss due to damaged reputation, recalls, or fines.

## Accounting Metrics

### RT0201-05. Number of recalls and total units recalled

.25 The registrant shall disclose the number of unique recalls and the total number of units recalled, where:

- A recall is defined as any repair, replacement, refund, or notice/warning program intended to protect consumers from products that present a safety risk.<sup>17</sup>
- Total number of units recalled refers to the combined quantity of products that were recalled as part of any recall during the fiscal year.
- The scope of disclosure includes voluntary recalls initiated by the registrant, as well as involuntary recalls mandated by regulatory agencies. Excluded from the scope of disclosure are products provided to customers for the explicit purpose of testing.
- Involuntary recalls are those required by regulatory agencies, and are issued when a product does not comply with regulatory safety standards, or when there is a safety-related defect in a product.
- Governmental agencies with regulatory oversight include, but are not limited to, the following:
  - Consumer Product Safety Commission (CPSC)
  - Food and Drug Administration (FDA), (e.g. for electronic product radiation)
  - Occupational Safety & Health Administration (OSHA), (e.g. for industrial and commercial electrical and electronic products)

.26 The registrant may choose, in addition to total units recalled, to disclose the percentage of recalls that were (1) voluntarily and (2) involuntarily issued.

### Note to RT0201-05

.27 The registrant shall discuss notable recalls, such as those that affected a significant number of products or those related to serious injury or fatality.

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<sup>17</sup> Consistent with the U.S. Consumer Product Safety Commission's Recall Handbook, available online at: <http://www.cpsc.gov/PageFiles/106141/8002.pdf>



.28 For such recalls, the registrant should provide:

- description and cause of the recall issue
- the total number of units recalled
- cost to remedy the issue (in U.S. dollars)
- whether the recall was voluntary or involuntary
- corrective actions
- any other significant outcomes (e.g. legal proceedings, fatalities)

**RT0201-06. Amount of legal and regulatory fines and settlements associated with product safety**

.29 The registrant shall disclose the amount (excluding legal fees) of all fines or settlements associated with incidents relating to product safety, including, but not limited to, violations of the Consumer Product Safety Act, the Electronic Product Radiation Control Provisions of the Federal Food, Drug, and Cosmetic Act, the U.S. National Electrical Code, and OSHA Safety Standards (such as the requirement for testing and certification by a Nationally Recognized Testing Laboratory [NRTL] under 29 CFR Part 1910 or by a Qualified Testing Laboratory [QTL] under 29 CFR Part 1926).

.30 Disclosure shall include civil actions (e.g., civil judgment, settlements, or regulatory penalties) and criminal actions (e.g., criminal judgment, penalties, or restitutions) taken by any entity (government, businesses, or individuals).

Note to **RT0201-06**

.31 The registrant shall briefly describe the nature (e.g., guilty plea, deferred agreement, or non-prosecution agreement) and context (e.g., inadequate testing or certification, etc.) of fines and settlements.

.32 The registrant shall describe any corrective actions it has implemented as a result of each incident. These may include, but are not limited to, specific changes in operations, management, processes, products, business partners, training, or technology.

.33 All disclosure shall be sufficient such that it is specific to the risks the registrant faces, but disclosure itself will not compromise the registrant's ability to maintain data privacy and security.

**RT0201-07. Revenue from production of controversial weapons or key components of controversial weapons.**

.34 The registrant shall disclose its revenue associated with production of controversial weapons and key components of controversial weapons, where:

- Controversial weapons are defined as cluster bombs, landmines, depleted uranium weapons, chemical and biological weapons, and any weapons covered under Protocols I, II, and IV of the United Nations Convention on Certain Conventional Weapons (CCCW) under the Chemical Weapons Convention (CWC), or under the Biological Weapons Convention.

# Fuel Economy & Use-phase Emissions

## Description

Customer demand for energy-efficient and cutting-edge technologies that drive sustainability in the Aerospace & Defense industry is strong, and growing. As the designers and manufacturers of most of the global aerospace and defense transportation fleet, companies in this industry have a unique opportunity to support many industries and government agencies striving to meet greenhouse gas and fuel management goals and imperatives. The price of fuel is a key driver in the profitability of the airline industry; therefore, increasing oil prices cut directly into airline profits. Recent regulatory efforts are also aiming to curb aviation emissions, which would add more costs to airlines operating inefficient aircraft. Given these market dynamics, companies that are innovative in increasing fuel economy and use-phase emissions will be better positioned to expand market share and manage changing regulations around fuel economy.

## Accounting Metrics

### **RT0201-08. Fleet fuel efficiency for: (1) terrestrial vehicles, (2) ships and marine systems, and (3) aircraft and other aerospace vehicles, for (a) passenger and (b) cargo vehicle types**

.35 The registrant shall disclose the sales-weighted average fleet fuel efficiency for each of the following vehicle types:

- Passenger terrestrial vehicles,
- Cargo terrestrial vehicles,
- Passenger ships and marine systems,
- Cargo ships and marine systems,
- Passenger aircraft and other aerospace vehicles,
- Cargo aircraft and other aerospace vehicles.

.36 Vehicle/vessel fuel efficiency is calculated as a full mission metric (i.e. Block Fuel / Range), which measures the fuel burn of a vehicle over an entire mission,<sup>18</sup> measured as:

- Gallons per mile, for passenger vehicles
- Gallons per ton-mile, for cargo vehicles

.37 Vehicle/vessel fuel efficiency calculations shall be based on typical operating parameters for each model (e.g. payload, use of ancillary systems, idling, etc.).

.38 Fleet fuel efficiency is calculated as a sales-weighted average of all vehicles/vessels sold during the fiscal year.

.39 For aircraft and other aerospace vehicles, the fleet fuel efficiency shall also be disclosed as an instantaneous performance metric, which measures the incremental air distance an aircraft can travel for a unit amount of fuel

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<sup>18</sup> This approach is consistent with the PARTNER Project 30 methodology. PARTNER — the Partnership for AiR Transportation Noise and Emissions Reduction — is a leading aviation cooperative research organization. An FAA Center of Excellence, PARTNER is sponsored by the FAA, NASA, Transport Canada, the U.S. Department of Defense, and the U.S. Environmental Protection Agency. The metric is further discussed in a PARTNER study, available online: <http://web.mit.edu/aeroastro/partner/reports/proj30/proj30-interim.pdf>

at a cruise condition, measured as 1/Specific Air Range (SAR). SAR is calculated by dividing true air speed (measured in km/s) by fuel flow (measured in kg/s).<sup>19</sup>

#### **RT0201-09. Revenue from alternative fuel vehicles**

.40 The registrant shall disclose the total revenue from its alternative fuel vehicles, where alternate fuel vehicles are defined, consistent with Section 301 of the U.S. Energy Policy Act (EPACT), as expanded by the U.S. National Defense Authorization Act of 2008,<sup>20</sup> to include:

- Biodiesel
- Denatured alcohol
- Electricity
- Hydrogen
- Methanol
- Mixtures containing up to 85 percent methanol or denatured ethanol
- Natural gas
- Propane (liquefied petroleum gas)
- Any vehicle achieving a significant reduction in petroleum consumption
- Advanced lean burn technology vehicles
- Fuel cell vehicles
- Hybrid electric vehicles

.41 For the purpose of this disclosure, electric vehicles are also explicitly included in the scope of “alternative fuel vehicles.”

.42 The registrant may choose to discuss its research and development (R&D) investments in alternative fuel vehicle technologies.

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<sup>19</sup> “When measured in steady-level conditions, 1/SAR primarily depends only on aircraft weight, altitude, air speed, and ambient temperature... 1/SAR also encapsulates fundamental parameters that directly influence airplane fuel efficiency including: propulsion system efficiency, aerodynamic efficiency, and airplane weight.” From a PARTNER study, available online:

<http://web.mit.edu/aeroastro/partner/reports/proj30/proj30-interim.pdf>

<sup>20</sup> [http://www.gsa.gov/portal/content/104442?utm\\_source=FAS&utm\\_medium=print-radio&utm\\_term=afv&utm\\_campaign=shortcuts](http://www.gsa.gov/portal/content/104442?utm_source=FAS&utm_medium=print-radio&utm_term=afv&utm_campaign=shortcuts)

# Materials Efficiency

## Description

The aerospace and defense manufacturing process involves the use of significant amounts of alloys, including: aluminum, steel, titanium, and other super alloys and composites. A significant portion of aerospace and defense manufacturers' revenue is spent on the cost of materials, particularly on high value metals. Due to constrained resources, material prices are likely to increase in the future. Therefore, companies that are able to manage their inputs through reducing and recycling manufacturing waste are likely to be better protected from price volatility. Moreover, aerospace and defense manufacturers can achieve substantial savings and improve operational efficiency by increasing the amount of waste that is recycled.

## Accounting Metrics

### RT0201-10. Percentage of products from remanufactured or reused parts

.43 The registrant shall disclose the percentage of its raw materials (by cost of goods sold) that are remanufactured or reused, where:

- Reused materials are defined as those recovered products, or components of products, that are used for the same purpose for which they were previously used.
- Remanufactured materials are defined as recovered products, or components of products, that have been reprocessed and made into a final product, or made into a component for incorporation into a product.
- Portions of products and materials that are disposed are not considered reused or remanufactured; only the portions of products or components that are directly incorporated into new products shall be included in the percentage from remanufactured or reused parts.
- The scope of disclosure is products sold during the fiscal year.

.44 The percentage from remanufactured or reused parts is calculated as the total cost of remanufactured or reused parts, divided by the total cost of goods sold for all products, including those products that do not contain any remanufactured or reused parts.

### RT0201-11. Amount of waste, percentage recycled

.45 The amount of total waste shall be calculated in metric tons, where waste is defined as anything for which the registrant has no further use, and that would otherwise be discarded or released to the environment.

- The scope includes both hazardous and nonhazardous wastes.
- Nonhazardous waste includes any Subtitle D Solid Waste, as defined by the Resource Conservation and Recovery Act (RCRA) (40 CFR § 261.2), which includes, but is not limited to, durable goods, nondurable goods, containers and packaging, and miscellaneous inorganic wastes.<sup>21</sup>
- Hazardous waste includes any Subtitle C Hazardous Waste as defined by RCRA. Hazardous wastes include those that display the following characteristics: ignitability, corrosivity, reactivity, or toxicity.

<sup>21</sup> <http://www.epa.gov/reg3wcmd/solidwastesummary.htm#waste>

.46 The percentage recycled shall be calculated as the weight of waste material that was reused, plus the weight recycled, reclaimed, or remanufactured (through treatment or processing) by the registrant, plus the amount sent externally for further reuse, recycling, or remanufacturing, divided by the total weight of waste material, where:

- A hazardous waste is recycled if it is used, reused, or reclaimed. Furthermore, RCRA hazardous waste regulation makes an important distinction between materials that are used or reused without reclamation and those that must be reclaimed before reuse. A material is *reclaimed* if it is processed to recover a usable product, or if it is regenerated. Common hazardous waste reclamation activities involve recovery of spent solvents (e.g., recovery of acetone) or metals (e.g., recovery of lead).<sup>22</sup>
- Reused materials are defined as those recovered products or components of products that are used for the same purpose for which they were conceived.
- Recycled and remanufactured materials are defined as waste materials that have been reprocessed or treated by means of production or manufacturing processes, and made into a final product or a component for incorporation into a product.
- 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).
- Portions of products and materials that are disposed of in landfills are not considered recycled; only the portions of products that are directly incorporated into new products, co-products, or by-products shall be included in the percentage recycled.
- Materials sent for further recycling include those materials that are transferred to a third party for the expressed purpose of reuse, recycling, or refurbishment.
- Materials incinerated, including for energy recovery, are not considered reused or recycled. Energy recovery is defined as the use of combustible waste as a means to generate energy through direct incineration, with or without other waste, but with recovery of the heat.

.47 Electronic waste material (e-waste) shall be considered recycled only if the registrant can demonstrate that this material was transferred to entities with third-party certification to a standard for e-waste recycling, such as Basel Action Network's e-Steward® standard or the U.S. EPA's Responsible Recycling Practices (R2) standard.

- The registrant shall disclose the standard(s) to which the entities it has transferred e-waste are compliant.

#### **RT0201-12. Ratio of weight of high value metals procured to the weight utilized in finished goods**

.48 The registrant shall disclose the ratio of weight of high value metals procured to the weight utilized in finished goods, where:

- High value metals include, but are not limited to, stainless steels, cobalt alloys, nickel alloys, copper nickel alloys, tantalum, and titanium alloys

.49 The ratio is calculated as the weight of high value metals materials procured, divided by the weight of the high value metals in finished goods.

- Materials procured refers to the amount of purchased raw materials (by weight) that were used as inputs to processes during the fiscal year.

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<sup>22</sup> <http://www.epa.gov/solidwaste/hazard/recycling/index.htm>

- Finished goods refers to the amount of high value metals (by weight) in products that were produced during the fiscal year.

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# Business Ethics

## Description

Aerospace and defense companies are particularly vulnerable to regulatory scrutiny of business ethics because of their exportation practices and frequent interactions with U.S. and government clients. The contract bidding process can provide opportunities for cooperative behavior to assist in obtaining or retaining business; however, these same processes may also result in bribery. Companies have been found in violation of corruption and anti-bribery laws such as the Foreign Corrupt Practices Act and the U.K. Bribery Act. Companies are under increasing pressure to ensure that their governance structures and practices can address corruption and participation—whether willful or unintentional—in illegal or unethical payments to government officials, or exertion of unfair influence through gifts or other means. Operating in corruption-prone countries can exacerbate these risks. These unethical practices may jeopardize future revenue growth due to reputational risks, and can result in significant fines and costs that may be considered material to investors.

## Accounting Metrics

### **RT0201-13. Description of the management system for prevention of corruption and bribery, throughout the value chain, including disclosure of highest risk areas**

- .50 The registrant shall discuss its management system and due diligence procedures for assessing and managing corruption and bribery risks, internally and associated with business partners, in its value chain.
- Relevant business partners include customers, suppliers, contractors, subcontractors, and JV partners.
- .51 Relevant aspects of a management system include employee awareness programs, internal mechanisms for reporting and following up on suspected violations, anti-corruption policies, and participation in the International Forum on Business Ethical Conduct (IFBEC).
- .52 The registrant may choose to discuss the implementation of one or more of the following:
- Defense Industry Initiative on Business Ethics and Conduct (DII) principles
  - Key Organization for Economic Co-operation and Development (OECD) [guidelines](#)
  - International Chamber of Commerce (ICC): Rules of Conduct against Extortion and Bribery
  - Transparency International: Business Principles for Countering Bribery
  - United Nations Global Compact: 10th Principle
  - World Economic Forum (WEF): Partnering Against Corruption Initiative (PACI)
  - TRACE International: TRACEstandard
- .53 The registrant shall discuss areas of its operations that are at the highest risk for corruption and bribery occurrences, such as those operations in countries with the lowest rankings on the Transparency International Corruption Perception Index.<sup>23</sup>

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<sup>23</sup> <http://cpi.transparency.org/cpi2013/results/>  
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#### **RT0201-14. Amount of legal and regulatory fines and settlements associated with charges of bribery or corruption**

- .54 The registrant shall disclose the amount (excluding legal fees) of all fines or settlements associated with incidents relating to bribery and corruption, including, but not limited to, violations of the Foreign Corrupt Practices Act of 1977 (FCPA) (15 U.S.C. § 78dd-1, *et seq.*).
- .55 Disclosure shall include civil actions (e.g., civil judgment, settlements, or regulatory penalties) and criminal actions (e.g., criminal judgment, penalties, or restitutions) taken by any entity (government, businesses, or individuals).

##### Note to **RT0201-14**

- .56 The registrant shall briefly describe the nature (e.g., guilty plea, deferred agreement, or non-prosecution agreement) and context (e.g., bribing an official, etc.) of fines and settlements.
- .57 The registrant shall describe any corrective actions it has implemented as a result of each incident. This may include, but is not limited to, specific changes in operations, management, processes, products, business partners, training, or technology.
- .58 All disclosure shall be sufficient such that it is specific to the risks the registrant faces, but disclosure itself will not compromise the registrant's ability to maintain data privacy and security.

#### **RT0201-15. Amount of legal and regulatory fines and settlements associated with violations of export control regulations**

- .59 The registrant shall disclose the amount (excluding legal fees) of all fines or settlements associated with violations of export control regulations including, but not limited to, the following:
- Arms Export Control Act (AECA)
  - Export Administration Regulations (EAR), 15 C.F.R. Parts 730–774
  - Immigration and Customs Enforcement (ICE)
  - International Traffic in Arms Regulations (ITAR), 22 C.F.R. Parts 120–130
  - U.S. Munitions List (USML) (ITAR Part 121)<sup>24</sup>
- .60 Disclosure shall include civil actions (e.g., civil judgment, settlements, or regulatory penalties) and criminal actions (e.g., criminal judgment, penalties, or restitutions) taken by any entity (government, businesses, or individuals).

##### Note to **RT0201-15**

- .61 The registrant shall briefly describe the nature (e.g., guilty plea, deferred agreement, or non-prosecution agreement) and context (e.g., unauthorized arms sales, etc.) of fines and settlements.
- .62 The registrant shall describe any corrective action it has implemented as a result of each incident. This may include, but is not limited to, specific changes in operations, management, processes, products, business partners, training, or technology.
- .63 All disclosure shall be sufficient such that it is specific to the risks the registrant faces, but disclosure itself will not compromise the registrant's ability to maintain data privacy and security.

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<sup>24</sup> <http://friedfrank.com/siteFiles/Publications/ITAR%20Enforcement%20Digest.pdf>



# Supply Chain Management & Materials Sourcing

## Description

Aerospace and defense companies are exposed to supply chain risks when rare earth or “conflict” minerals and metals are used in products, and when counterfeit or compromised products enter their supply chain. Counterfeit components can lead to product malfunctions and compromised safety and security. The Department of Defense is currently developing a tool to verify counterfeit components, so companies with counterfeit parts in their supply chain may quickly be exposed. Additionally, proactive supply chain audits and management will help insulate companies from reputational or regulatory risk. There are material sourcing risks associated with rare metals and conflict minerals due to a low substitution ratio, concentration of deposits in only a few countries, and geopolitical considerations. Companies in this industry also face competition from increasing global demand for these minerals from other sectors that can result in significant price increases and supply chain risks. Companies that are able to limit the use of critical and conflict materials, as well as securing their supply, would not only minimize environmental and social externalities related to extraction, but also protect themselves from supply disruptions and volatile input prices.

## Accounting Metrics

### RT0201-16. Number of counterfeit parts, percentage avoided

- .64 The registrant shall disclose the total number of counterfeit parts detected in its operations, including those parts that were detected before purchase, and therefore avoided.
- .65 The percentage avoided is calculated as the number of counterfeit parts that were detected prior to the parts procurement (and were therefore avoided), divided by the total number of counterfeit parts, where:
- Percentage avoided includes any part that could have been purchased, except for the fact that it was detected and the purchase decision was based on the detection. Specifically, a part that the registrant had a need to purchase and which was available from a supplier that the registrant might use.
- .66 The registrant should discuss at what point in its production process it detected the purchased counterfeit parts (e.g. whether the parts were detected by the registrant’s testing systems prior to production or after production, or if the registrant was notified by its customers, etc.).
- The scope includes known or suspected counterfeit parts, regardless of the final disposition of the parts and/or system that contained the parts, including any parts that were ultimately recalled or replaced.

### RT0201-17. Percentage of material costs for items containing critical materials

- .67 The registrant shall calculate the percentage as the cost of raw materials that contain critical materials, divided by total materials cost of goods sold.
- The scope of disclosure includes materials costs for parts, components, commodities, associated freight, and storage, and excludes those for overhead, labor, recalls, warranties, or other costs of goods sold.
- .68 A critical material is defined as one that is both essential in use and subject to the risk of supply restriction.<sup>25</sup>

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<sup>25</sup> National Research Council. *Minerals, Critical Minerals, and the U.S. Economy*. Washington, DC: The National Academies Press, 2008.  
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.69 At a minimum, the scope of critical materials includes the following minerals and metals defined by the National Research Council, as well as materials specifically identified by the Department of Defense for potential shortfall in defense-related applications.<sup>26</sup>

- Antimony, cobalt, fluorspar, gallium, germanium, graphite, indium, magnesium, niobium, tantalum, and tungsten;
- Platinum group metals (platinum, palladium, iridium, rhodium, ruthenium and osmium);
- 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).
- In addition to the above, defense-related critical materials include: tin, aluminum oxide-fused crude, silicon carbide, bismuth, manganese metal electrolytic, beryllium metal, and chromium metal; as well as Department of Defense proprietary materials (e.g. specific types of carbon fiber, and a specialty rare earth oxide).

#### **RT0201-18. Percentage of tungsten, tin, tantalum, and gold smelters within the supply chain that are verified conflict-free**

.70 The registrant shall calculate the percentage as: the number of tungsten, tin, tantalum, and gold smelters and/or refineries within its supply chain that are verified to be conflict-free, divided by the total number of tungsten, tin, tantalum, and gold smelters and/or refineries within its supply chain.

.71 A smelter or refiner is considered to be conflict-free if it can demonstrate compliance with:

- The Electronic Industry Citizenship Coalition (EICC) and Global e-Sustainability Initiatives (GeSI) Conflict-Free Smelter Program (CFSP) assessment protocols.
- The Responsible Jewellery Council's (RJC) Chain-of-Custody (CoC) Standard.

.72 A smelter or refinery is considered to be within the registrant's supply chain if it supplies, or is approved to supply, tungsten, tin, tantalum, or gold that is contained in any product the registrant manufactures or contracts to be manufactured.

- The scope includes smelters or refineries that supply material directly to the registrant, as well as those that supply material to any of its suppliers of raw materials, components, or subassemblies.

#### **RT0201-19. Discussion of the management of risks associated with the use of critical materials and conflict minerals**

.73 The registrant shall discuss its strategic approach to managing its risks associated with usage of critical materials and conflict minerals in its products, including physical limits on availability, access, price, and reputational risks, where:

- Critical material is defined as one that is both essential in use and subject to the risk of supply restriction.<sup>27</sup> At a minimum, the scope of critical materials includes the following minerals and metals:
  - Antimony, cobalt, fluorspar, gallium, germanium, graphite, indium, magnesium, niobium, tantalum, and tungsten;
  - Platinum group metals (platinum, palladium, iridium, rhodium, ruthenium and osmium);

<sup>26</sup> Strategic and Critical Materials 2013 Report on Stockpile Requirements, available online:

<http://www.cecd.umd.edu/publications/Argonne%20Lab/Report%20Nat%20Def%20Stockpile%20Requirements%202013.pdf>

<sup>27</sup> National Research Council. *Minerals, Critical Minerals, and the U.S. Economy*. Washington, DC: The National Academies Press, 2008.

- 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).
  - Conflict minerals are defined as tungsten, tin, tantalum, and gold.
- .74 The registrant should identify which materials and minerals present a risk to its operations, which type of risk they represent, and the strategies the registrant uses to mitigate the risk.
- .75 For critical materials, relevant strategies to discuss include diversification of suppliers, stockpiling of materials, expenditures in R&D for alternative and substitute materials, and investments in recycling technology for critical materials.
- .76 For conflict minerals, relevant strategies to discuss include due diligence practices, supply chain auditing, supply chain engagement, and partnerships with industry groups or nongovernmental development organizations.

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**SUSTAINABILITY ACCOUNTING STANDARDS BOARD®**

75 Broadway, Suite 202  
San Francisco, CA 94111  
415.830.9220  
info@sasb.org

[www.sasb.org](http://www.sasb.org)



SUSTAINABILITY ACCOUNTING STANDARD  
RESOURCE TRANSFORMATION SECTOR

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# ELECTRICAL & ELECTRONIC EQUIPMENT

Sustainability Accounting Standard

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Sustainable Industry Classification System™ (SICS™) #RT0202

Prepared by the  
Sustainability Accounting Standards Board®

OCTOBER 2014  
EXPOSURE DRAFT FOR PUBLIC COMMENT

# ELECTRICAL & ELECTRONIC EQUIPMENT

## Sustainability Accounting Standard

### About SASB

The Sustainability Accounting Standards Board (SASB) provides sustainability accounting standards for use by publicly listed corporations in the U.S. in disclosing material sustainability information for the benefit of investors and the public. SASB standards are designed for disclosure in mandatory filings to the Securities and Exchange Commission (SEC), such as the Form 10-K and 20-F. SASB is an independent 501(c)3 nonprofit organization. Through 2016, SASB is developing standards for more than 80 industries in 10 sectors.

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### SUSTAINABILITY ACCOUNTING STANDARDS BOARD

75 Broadway, Suite 202  
San Francisco, CA 94111  
415.830.9220

[info@sasb.org](mailto:info@sasb.org)

[www.sasb.org](http://www.sasb.org)

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# INTRODUCTION

## Purpose & Structure

This document contains the SASB Sustainability Accounting Standard (SASB Standard) for Electrical & Electronic Equipment industry.

SASB Standards are comprised of **(1) disclosure guidance and (2) accounting standards on sustainability topics** for use by U.S. and foreign public companies in their annual filings (Form 10-K or 20-F) with the U.S. Securities and Exchange Commission (SEC). To the extent relevant, SASB Standards may also be applicable to other periodic mandatory filings with the SEC, such as the Form 10-Q, Form S-1, and Form 8-K.

SASB's disclosure guidance identifies sustainability topics at an industry level, which may be material— depending on a company's specific operating context— to a company within that industry.

Each company is ultimately responsible for determining which information is material and is therefore required to be included in its Form 10-K or 20-F and other periodic SEC filings.

SASB's accounting standards provide companies with standardized accounting metrics to account for performance on industry-level sustainability topics. When making disclosure on sustainability topics, companies adopting SASB's accounting standards will help to ensure that disclosure is standardized and therefore useful, relevant, comparable, and auditable.

## Industry Description

The Electrical & Electronic Equipment industry includes companies that develop and manufacture a broad range of electric components, including power generation equipment, energy transformers, electric motors, switchboards, automation equipment, heating and cooling equipment, lighting, and transmission cables. This industry is characterized by large and highly complex supply chains, as many of these companies compete globally and source materials from all over the world. The electrical equipment industry has a large opportunity going forward as demand for new energy-efficient products increases and as aging electric infrastructure needs replacement. Companies will have to navigate key competitive pricing trends, along with specific regulations, significant environmental issues, and social issues affecting the industry or its customers.

# Guidance for Disclosure of Material Sustainability Topics in SEC Filings

## 1. Industry-Level Sustainability Disclosure Topics

For the Electrical & Electronic Equipment industry, SASB has identified the following sustainability disclosure topics:

Energy Management	Product Lifecycle Management & Innovation
Hazardous Materials Management	Business Ethics & Competitive Behavior
Product Safety	Materials Sourcing
Employee Health & Safety	

## 2. Company-Level Determination and Disclosure of Material Sustainability Topics

Sustainability disclosures are governed by the same laws and regulations that govern disclosures by securities issuers generally. According to the U.S. Supreme Court, a fact is material if, in the event such fact is omitted from a particular disclosure, there is “a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the ‘total mix’ of the information made available.”<sup>1,2</sup>

SASB has attempted to identify those sustainability topics that it believes may be material for all companies within each SICS industry. SASB recognizes, however, that each company is ultimately responsible for determining what is material to it.

Regulation S-K, which sets forth certain disclosure requirements associated with Form 10-K and other SEC filings, requires companies, among other things, to describe in the Management’s Discussion and Analysis of Financial Condition and Results of Operations (MD&A) section of Form 10-K “any known trends or uncertainties that have had or that the registrant reasonably expects will have a material favorable or unfavorable impact on net sales or revenues or income from continuing operations. If the registrant knows of events that will cause a material change in the relationship between costs and revenues (such as known future increases in costs of labor or materials or price increases or inventory adjustments), the change in the relationship shall be disclosed.”<sup>2</sup>

Furthermore, Instructions to Item 303 state that the MD&A “shall focus specifically on material events and uncertainties known to management that would cause reported financial information not to be necessarily indicative of future operating results or of future financial condition.”<sup>2</sup>

In determining whether a trend or uncertainty should be disclosed, the SEC has stated that management should use a two-part assessment based on probability and magnitude:

First, a company is not required to make disclosure about a known trend or uncertainty if its management determines that such trend or uncertainty is not reasonably likely to occur.

Second, if a company’s management cannot make a reasonable determination of the likelihood of an event or uncertainty, then disclosure is required unless management determines that a material effect on the registrant’s financial condition or results of operation is not reasonably likely to occur.

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<sup>1</sup> TSC Industries v. Northway, Inc., 426 U.S. 438 (1976).

<sup>2</sup> C.F.R. 229.303(Item 303)(a)(3)(ii).

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### 3. Sustainability Accounting Standard Disclosures in Form 10-K

#### a. Management's Discussion and Analysis

Companies should consider making disclosure on sustainability topics as a complete set in the MD&A, in a sub-section titled **"Sustainability Accounting Standards Disclosures."**<sup>3</sup>

#### b. Other Relevant Sections of Form 10-K

In addition to the MD&A section, companies should consider disclosing sustainability information in other sections of Form 10-K, as relevant, including:

**Description of business**—Item 101 of Regulation S-K requires a company to provide a description of its business and its subsidiaries. Item 101(c)(1)(xii) expressly requires disclosure regarding certain costs of complying with environmental laws:

Appropriate disclosure also shall be made as to the material effects that compliance with Federal, State and local provisions which have been enacted or adopted regulating the discharge of materials into the environment, or otherwise relating to the protection of the environment, may have upon the capital expenditures, earnings and competitive position of the registrant and its subsidiaries.

**Legal proceedings**—Item 103 of Regulation S-K requires companies to describe briefly any material pending or contemplated legal proceedings. Instructions to Item 103 provide specific disclosure requirements for administrative or judicial proceedings arising from laws and regulations that target discharge of materials into the environment or that are primarily for the purpose of protecting the environment.

**Risk factors**—Item 503(c) of Regulation S-K requires filing companies to provide a discussion of the most significant factors that make an investment in the registrant speculative or risky, clearly stating the risk and specifying how a particular risk affects the particular filing company.

#### c. Rule 12b-20

Securities Act Rule 408 and Exchange Act Rule 12b-20 require a registrant to disclose, in addition to the information expressly required by law or regulation, "such further material information, if any, as may be necessary to make the required statements, in light of the circumstances under which they are made, not misleading."

More detailed guidance on disclosure of material sustainability topics can be found in the **SASB Conceptual Framework**, available for download via <http://www.sasb.org/approach/conceptual-framework/>.

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<sup>3</sup> [SEC \[Release Nos. 33-8056; 34-45321; FR-61\] Commission Statement about Management's Discussion and Analysis of Financial Condition and Results of Operations](#): "We also want to remind registrants that disclosure must be both useful and understandable. That is, management should provide the most relevant information and provide it using language and formats that investors can be expected to understand. Registrants should be aware also that investors will often find information relating to a particular matter more meaningful if it is disclosed in a single location, rather than presented in a fragmented manner throughout the filing."

# Guidance on Accounting of Material Sustainability Topics

For sustainability disclosure topics in the Electrical & Electronic Equipment industry, SASB identifies accounting metrics.

SASB recommends that each company consider using these sustainability accounting metrics when disclosing its performance with respect to each of the sustainability topics it has identified as material.

As appropriate—and consistent with Rule 12b-20<sup>4</sup>—for each sustainability topic, companies should consider including a narrative description of any material factors necessary to ensure completeness, accuracy, and comparability of the data reported. Where not addressed by the specific accounting metrics, but relevant, the registrant should discuss the following, related to the topic:

- The registrant's **strategic approach** to managing performance on material sustainability issues;

- The registrant's competitive positioning;

- The **degree of control** the registrant has;

- Any measures the registrant has undertaken or plans to undertake to improve performance; and

- Data for the registrant's **last three completed fiscal years** (when available).

SASB recommends that registrants use SASB Standards specific to their primary industry as identified in the [Sustainable Industry Classification System \(SICS™\)](#). If a registrant generates significant revenue from multiple industries, SASB recommends that it consider the materiality of the sustainability issues that SASB has identified for those industries and disclose the associated SASB accounting metrics.

## Users of the SASB Standards

The SASB Standards are intended for companies that engage in public offerings of securities registered under the Securities Act of 1933 (the Securities Act) and those that issue securities registered under the Securities Exchange Act of 1934 (the Exchange Act),<sup>5</sup> for use in SEC filings, including, without limitation, annual reports on Form 10-K (Form 20-F for foreign issuers), quarterly reports on Form 10-Q, current reports on Form 8-K, and registration statements on Forms S-1 and S-3. Nevertheless, disclosure with respect to the SASB Standards is not required or endorsed by the SEC or other entities governing financial reporting, such as FASB, GASB, or IASB.

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<sup>4</sup> SEC Rule 12b-20: "In addition to the information expressly required to be included in a statement or report, there shall be added such further material information, if any, as may be necessary to make the required statements, in the light of the circumstances under which they are made, not misleading."

<sup>5</sup> Registration under the Securities Exchange Act of 1934 is required (1) for securities to be listed on a national securities exchange, such as the New York Stock Exchange, the NYSE Amex, and the NASDAQ Stock Market, or (2) if (A) the securities are equity securities and are held by more than 2,000 persons (or 500 persons who are not accredited investors) and (B) the company has more than \$10 million in assets.

# Scope of Disclosure

Unless otherwise specified, SASB recommends:

That a registrant disclose on sustainability issues and metrics for itself and for entities in which the registrant has a controlling interest and therefore are consolidated for financial reporting purposes (controlling interest is generally defined as ownership of 50% or more of voting shares);<sup>6</sup>

That for consolidated entities, disclosures be made, and accounting metrics calculated, for the whole entity, regardless of the size of the minority interest; and

That information from unconsolidated entities not be included in the computation of SASB accounting metrics. A registrant should disclose, however, information about unconsolidated entities to the extent that the registrant considers the information necessary for investors to understand its performance with respect to sustainability issues (typically, this disclosure would be limited to risks and opportunities associated with these entities).

## Reporting Format

### Activity Metrics and Normalization

SASB recognizes that normalizing accounting metrics is important for the analysis of SASB disclosures.

SASB recommends that a registrant disclose any basic business data that may assist in the accurate evaluation and comparability of disclosure, to the extent that they are not already disclosed in the Form 10-K (e.g., revenue, EBITDA, etc.).

Such data—termed “activity metrics”—may include high-level business data such as total number of employees, quantity of products produced or services provided, number of facilities, or number of customers. It may also include industry-specific data such as plant capacity utilization (e.g., for specialty chemical companies), number of transactions (e.g., for Internet media and services companies), hospital bed days (e.g., for health care delivery companies), or proven and probable reserves (e.g., for oil and gas exploration and production companies).

Activity metrics disclosed should:

Convey contextual information that would not otherwise be apparent from SASB accounting metrics.

Be deemed generally useful for users of SASB accounting metrics (e.g., investors) in performing their own calculations and creating their own ratios.

Be explained and consistently disclosed from period to period to the extent they continue to be relevant. However, a decision to make a voluntary disclosure in one period does not obligate a continuation of that disclosure if it is no longer relevant or if a better metric becomes available.

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<sup>6</sup> See U.S. GAAP consolidation rules (Section 810).  
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Where relevant, SASB recommends specific activity metrics that—at a minimum—should accompany SASB accounting metric disclosures.

ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE
Number of units produced by product category <sup>7</sup>	Quantitative	Number	RT0202-A
Number of employees, percentage in manufacturing role	Quantitative	Number, Percentage (%)	RT0202-B

## Units of Measure

Unless specified, disclosures should be reported in International System of Units (SI units).

## Uncertainty

SASB recognizes that there may be inherent uncertainty when disclosing certain sustainability data and information. This may be related to variables such as the imperfectness of third-party reporting systems or the unpredictable nature of climate events. Where uncertainty around a particular disclosure exists, SASB recommends that the registrant should consider discussing its nature and likelihood.

## Estimates

SASB recognizes that scientifically-based estimates, such as the reliance on certain conversion factors or the exclusion of *de minimis* values, may be necessary for certain quantitative disclosures. Where appropriate, SASB does not discourage the use of such estimates. When using an estimate for a particular disclosure, SASB expects that the registrant discuss its nature and substantiate its basis.

## Timing

Unless otherwise specified, disclosure shall be for the registrant's fiscal year.

## Limitations

There is no guarantee that SASB Standards address all sustainability impacts or opportunities associated with a sector, industry, or company, and therefore, a company must determine for itself the topics—sustainability-related or otherwise—that warrant discussion in its SEC filings.

Disclosure under SASB Standards is voluntary. It is not intended to replace any legal or regulatory requirements that may be applicable to user operations. Where such laws or regulations address legal or regulatory topics, disclosure under SASB Standards is not meant to supersede those requirements. Disclosure according to SASB Standards shall not be construed as demonstration of compliance with any law, regulation, or other requirement.

SASB Standards are intended to be aligned with the principles of materiality enforced by the SEC. However, SASB is not affiliated with or endorsed by the SEC or other entities governing financial reporting, such as FASB, GASB, or IASB.

<sup>7</sup> Note to RT0202-A – The registrant shall indicate the number of units produced during the fiscal year, whether they were manufactured in its own facilities or they were produced by contract manufacturers or suppliers. Disclosure shall be made for each of the following production categories that apply, which correspond to Level 3 of the Bloomberg Industry Classification System (BICS) as mapped to the Resource Transformation sector in the Sustainable Industry Classification System (SICS): Commercial & Residential Building Equipment & Systems, Electrical Components, Industrial Automation Controls, Measurement Instruments, Power Generation Equipment, Power Transmission, Distribution, & Automation Equipment, and Utility Networks.

# Forward-looking Statements

Disclosures on sustainability topics can involve discussion of future trends and uncertainties related to the registrant's operations and financial condition, including those influenced by external variables (e.g., environmental, social, regulatory, and political). Companies making such disclosures should familiarize themselves with the safe harbor provisions of Section 27A of the Securities Act and Section 21E of the Exchange Act, which preclude civil liability for material misstatements or omissions in such statements if the registrant takes certain steps, including, among other things, identifying the disclosure as "forward-looking" and accompanying such disclosure with "meaningful cautionary statements identifying important factors that could cause actual results to differ materially from those in the forward-looking statements."

## Assurance

In disclosing to SASB Standards, it is expected that registrants disclose with the same level of rigor, accuracy, and responsibility as they apply to all other information contained in their SEC filings.

SASB encourages registrants to use independent assurance (attestation); for example, an Examination Engagement to AT Section 101.

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# Table 1. Sustainability Disclosure Topics & Accounting Metrics

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	CODE
<b>Energy Management</b>	Total energy consumed, percentage grid electricity, percentage renewable	Quantitative	Gigajoules (GJ), Percentage (%)	RT0202-01
<b>Hazardous Materials Management</b>	Amount of hazardous waste, percentage recycled	Quantitative	Tons (t), Percentage (%)	RT0202-02
	Number and aggregate quantity of reportable releases and spills, quantity recovered	Quantitative	Number, Kilograms (kg)	RT0202-03
<b>Product Safety</b>	Number of recalls and total units recalled <sup>8</sup>	Quantitative	Number	RT0202-04
	Amount of legal and regulatory fines and settlements associated with product safety <sup>9</sup>	Quantitative	U.S. Dollars (\$)	RT0202-05
<b>Employee Health &amp; Safety</b>	(1) Total Recordable Injury Rate (TRIR) and (2) Near Miss Frequency Rate	Quantitative	Rate	RT0202-06
	Discussion of efforts to assess, monitor, and reduce exposure of employees and contract workers to long-term (chronic) health risks	Discussion and Analysis	n/a	RT0202-07
<b>Product Lifecycle Management &amp; Innovation</b>	Percentage of products by revenue that contain IEC 62474 declarable substances <sup>10</sup>	Quantitative	Percentage (%) by revenue	RT0202-08
	Percentage of eligible products by revenue meeting ENERGY STAR <sup>®</sup> criteria	Quantitative	Percentage (%) by revenue	RT0202-09
	Percentage of products from remanufactured or reused parts	Quantitative	Percentage (%) by COGS	RT0202-10
	Total energy cost savings achieved through energy performance contracts	Quantitative	U.S. Dollars	RT0202-11

<sup>8</sup> Note to RT0202-04 – Disclosure shall include a discussion of notable recalls, such as those that affected a significant number of units of one model or those related to a serious injury or fatality.

<sup>9</sup> Note to RT0202-05 – Disclosure shall include a description of fines and settlements and corrective actions implemented in response to events.

<sup>10</sup> Note to RT0202-08 – Disclosure shall include a discussion of approach to managing the use of IEC 62474 declarable substances.

## Table 1. Sustainability Disclosure Topics & Accounting Metrics (cont.)

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	CODE
<b>Business Ethics &amp; Competitive Behavior</b>	Description of the management system for prevention of corruption and bribery throughout the value chain	Discussion and Analysis	n/a	RT0202-12
	Amount of legal and regulatory fines and settlements associated with charges of bribery or corruption <sup>11</sup>	Quantitative	U.S. Dollars (\$)	RT0202-13
	Amount of legal and regulatory fines and settlements associated with anti-competitive practices <sup>12</sup>	Quantitative	U.S. Dollars (\$)	RT0202-14
<b>Materials Sourcing</b>	Percentage of materials costs for items containing critical materials	Quantitative	Percentage (%) by COGS	RT0202-15
	Percentage of tungsten, tin, tantalum, and gold smelters within the supply chain that are verified conflict-free	Quantitative	Percentage (%)	RT0202-16
	Discussion of the management of risks associated with the use of critical materials and conflict minerals	Discussion and Analysis	n/a	RT0202-17

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<sup>11</sup> Note to RT0202-13 – Disclosure shall include a description of fines and settlements and corrective actions implemented in response to events.

<sup>12</sup> Note to RT0202-14 – Disclosure shall include a description of fines and settlements and corrective actions implemented in response to events.

# Energy Management

## Description

Fuel combustion onsite contributes to the Electrical & Electronic Equipment industry's direct (Scope 1) GHG emissions, while electricity purchases from the grid create indirect impacts on the climate through Scope 2 emissions. These firms are highly reliant on energy as an input for value creation due to their energy-intensive operations. Approximately half of the industry's energy need is fulfilled by electricity, while the rest is fulfilled by natural gas and other fuels. Since electricity consumption indirectly contributes to climate change and air pollution, the cost of grid electricity may increase to offset carbon tax on utilities. With manufacturing and assembly plants located in several regions, the likelihood and impact of climate change regulations will vary depending on the exact location of facilities. Companies that proactively limit their exposure to volatile energy prices and carbon prices, by fulfilling part of their energy needs from renewable sources, are likely to be better able to manage long-term regulatory risks.

## Accounting Metrics

### RT0202-01. Total energy consumed, percentage grid electricity, percentage renewable

- .01 The registrant shall disclose total energy consumption from all sources as an aggregate figure in gigajoules or their multiples.
- The scope includes energy purchased from sources external to the organization or produced by the organization itself (self-generated).
  - The scope includes only energy consumed by entities owned or controlled by the organization.
  - The scope includes energy from all sources, including direct fuel usage, purchased electricity, and heating, cooling, and steam energy.
- .02 In calculating energy consumption from fuels and biofuels, the registrant shall use higher heating values (HHV), also known as gross calorific values (GCV), and which are directly measured or taken from the Intergovernmental Panel on Climate Change (IPCC), the U.S. Department of Energy (DOE), or the U.S. Energy Information Administration (EIA).
- .03 The registrant shall disclose purchased grid electricity consumption as a percentage of its total energy consumption.
- .04 The registrant shall disclose renewable energy consumption as a percentage of its total energy consumption.
- The scope of renewable energy includes renewable fuel the registrant consumes, and renewable energy the registrant directly produces or purchases through a renewable power purchase agreement (PPA) that explicitly includes renewable energy certificates (RECs), or for which Green-e Energy Certified RECs are paired with grid electricity.
    - For any renewable electricity generated onsite, any RECs must be retained (i.e., not sold) and retired on behalf of the registrant in order for the registrant to claim them as renewable energy.
    - For renewable PPAs, the agreement must explicitly include and convey that RECs be retained and retired on behalf of the registrant in order for the registrant to claim them as renewable energy.

- The renewable portion of the electricity grid mix that is outside of the control or influence of the registrant is excluded from disclosure.<sup>13</sup>

.05 Renewable energy is defined as energy from sources that are capable of being replenished in a short time through ecological cycles, such as geothermal, wind, solar, hydro, and biomass.

- For the purposes of this disclosure, the scope of renewable energy from hydro and biomass sources are limited to the following:
  - Energy from hydro sources that are certified by the Low Impact Hydropower Institute.
  - Energy from biomass sources are limited to those that are considered “eligible renewables” according to the Green-e Energy National Standard Version 2.4 or eligible for a state Renewable Portfolio Standard.

.06 The registrant 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 kWh to gigajoules (including for electricity from solar or wind energy).

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<sup>13</sup> SASB recognizes that RECs reflect the environmental attributes of renewable energy that have been introduced to the grid, and that a premium has been paid by the purchaser of the REC to enable generation of renewable energy beyond any renewable energy already in the grid mix, absent the market for RECs.

# Hazardous Materials Management

## Description

Electrical and electronic equipment manufacturing uses a wide variety of hazardous chemicals throughout their operations that are potential pollutants of the air, water, and soil. Examples of these hazardous compounds used in electrical equipment operations include chromium, nickel, cobalt, trichloroethylene, lead, glycol ethers, and various volatile organic compounds. These compounds are classified as hazardous substances and are, therefore, subject to EPA guidelines, such as the Resource Conservation and Recovery Act (RCRA), which regulates disposal and storage of hazardous and solid waste. Proper processing and disposal of hazardous waste materials are essential to limiting risk of remediation liabilities, fines, and regulations. In addition, companies that are able to limit the waste of input materials and recycle the waste generated may achieve significant cost savings and improve profitability.

## Accounting Metrics

### RT0202-02. Amount of hazardous waste, percentage recycled

.07 The amount of hazardous waste shall be calculated in metric tons, where:

- Waste is generally defined as anything for which the registrant has no further use and which would otherwise be discarded or released to the environment.
- Hazardous waste includes any Subtitle C Hazardous Waste as defined by the Resource Conservation and Recovery Act (RCRA) (40 CFR § 261). Hazardous wastes include those that display the following characteristics: ignitability, corrosivity, reactivity, or toxicity.

.08 The percentage recycled shall be calculated as the weight of waste material that was reused, plus the weight recycled, reclaimed, or remanufactured (through treatment or processing) by the registrant, plus the amount sent externally for further reuse, recycling, or remanufacturing, divided by the total weight of waste material, where:

- A hazardous waste is recycled if it is used, reused, or reclaimed. Furthermore, RCRA hazardous waste regulation makes an important distinction between materials that are used or reused without reclamation, and those that must be reclaimed before reuse. A material is reclaimed if it is processed to recover a usable product, or if it is regenerated. Common hazardous waste reclamation activities involve recovery of spent solvents (e.g., recovery of acetone) or metals (e.g., recovery of lead).<sup>14</sup>
- Reused materials are defined as those recovered products or components of products that are used for the same purpose for which they were conceived.
- Recycled and remanufactured materials are defined as waste materials that have been reprocessed or treated by means of production or manufacturing processes and made into a final product, or made into a component for incorporation into a product.
- 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).
- Portions of products and materials that are disposed of in landfills are not considered recycled; only the portions of products that are directly incorporated into new products, co-products, or by-products shall be included in the percentage recycled.

<sup>14</sup> <http://www.epa.gov/solidwaste/hazard/recycling/index.htm>

- Materials sent for further recycling include those materials that are transferred to a third party for the expressed purpose of reuse, recycling, or refurbishment.
- Materials incinerated, including for energy recovery, are not considered reused or recycled. Energy recovery is defined as the use of combustible waste as a means to generate energy through direct incineration, with or without other waste, but with recovery of the heat.

.09 Electronic waste material (e-waste) shall be considered recycled only if the registrant can demonstrate that this material was transferred to entities with third-party certification to a standard for e-waste recycling, such as Basel Action Network's e-Steward® standard or the U.S. EPA's Responsible Recycling Practices (R2) standard.

- The registrant shall disclose the standard(s) to which the entities it has transferred e-waste are compliant.

**RT0202-03. Number and aggregate quantity of reportable releases and spills, quantity recovered**

.10 The registrant shall disclose the total number and quantity (in kilograms) of reportable releases, where:

- Reportable releases are defined as any release of a hazardous substance in an amount equal to or greater than the reportable quantity as defined by the U.S. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
- The number of releases shall represent any spills, leaks, emissions, discharges, injections, disposals, and abandonment releases over time, counted once at the time identified, consistent with CERCLA.
- The aggregate quantity reported shall represent the total estimated quantity released that reached the environment, and shall not be reduced by the amount of such hazardous substance subsequently recovered, evaporated, or otherwise lost, consistent with CERCLA.<sup>15</sup>

.11 The registrant may choose to disclose releases to soil and water separately. A release that qualifies as a release to both soil and water should be reported as a single release to water, with the volume properly apportioned to soil and water.

.12 The registrant shall calculate the quantity of releases recovered as the quantity of released hazardous substances (in kilograms) removed from the environment through short-term release response activities, excluding:

- Amounts that were recovered during longer-term remediation at spill sites.
- Amounts that evaporated, burned, or were dispersed.

<sup>15</sup> <http://www.epa.gov/superfund/policy/release/rq/index.htm#info>

# Product Safety

## Description

Proper safety procedures, tests, and protocols for electrical equipment can help companies lower reputational risks associated with recalls, can protect sales, and can prevent injuries and even death from users of electric equipment. If current and future product quality and safety are not managed effectively, it can result in large product liability claims and potential regulation, costing companies millions of dollars. Disclosing product quality and safety metrics may provide investors with a better perspective of a company's total risk profile, and help them to gauge the magnitude and frequency of product quality and safety issues relative to industry peers.

## Accounting Metrics

### RT0202-04. Number of recalls and total units recalled

.13 The registrant shall disclose the number of recalls and the total number of units recalled, where:

- A recall is defined as any repair, replacement, refund, or notice/warning program intended to protect consumers from products that present a safety risk.<sup>16</sup>
- Total number of units recalled refers to the combined quantity of products that were recalled as part of any recall during the fiscal year.
- The scope of disclosure includes voluntary recalls initiated by the registrant, as well as involuntary recalls mandated by regulatory agencies. Excluded from the scope of disclosure are products provided to customers for the explicit purpose of testing.
- Involuntary recalls are those required by regulatory agencies, and are issued when a product does not comply with regulatory safety standards, or when there is a safety-related defect in a product.
- Governmental agencies with regulatory oversight include, but are not limited to, the following:
  - Consumer Product Safety Commission (CPSC)
  - Food and Drug Administration (FDA), (e.g. for electronic product radiation)
  - Occupational Safety & Health Administration (OSHA), (e.g. for industrial and commercial electrical and electronic products)

.14 The registrant may choose, in addition to total units recalled, to disclose the percentage of recalls that were (1) voluntarily and (2) involuntarily issued.

### Note to RT0202-04

.15 The registrant shall discuss notable recalls, such as those that affected a significant number of products or those related to serious injury or fatality.

.16 For such recalls the registrant should provide:

- description and cause of the recall issue
- the total number of units recalled

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<sup>16</sup> Consistent with the U.S. Consumer Product Safety Commission's Recall Handbook, available online at: <http://www.cpsc.gov/PageFiles/106141/8002.pdf>

- cost to remedy the issue (in U.S. dollars)
- whether the recall was voluntary or involuntary
- corrective actions
- any other significant outcomes (e.g. legal proceedings, fatalities)

**RT0202-05. Amount of legal and regulatory fines and settlements associated with product safety**

.17 The registrant shall disclose the amount (excluding legal fees) of all fines or settlements associated with incidents relating to product safety, including, but not limited to, violations of the following:

- Consumer Product Safety Act
- Federal Food, Drug, and Cosmetic Act (e.g. the Electronic Product Radiation Control Provisions)
- U.S. National Electrical Code
- OSHA Safety Standards (e.g., requirements for testing and certification of electrical equipment by a Nationally Recognized Testing Laboratory [NRTL] under 29 CFR Part 1910, or by a Qualified Testing Laboratory [QTL] under 29 CFR Part 1926).

.18 Disclosure shall include civil actions (e.g., civil judgment, settlements, or regulatory penalties) and criminal actions (e.g., criminal judgment, penalties, or restitutions) taken by any entity (government, businesses, or individuals).

Note to **RT0202-05**

.19 The registrant shall briefly describe the nature (e.g., guilty plea, deferred agreement, or non-prosecution agreement) and context (e.g., inadequate testing or certification, etc.) of fines and settlements.

.20 The registrant shall describe any corrective actions it has implemented as a result of each incident. These may include, but are not limited to, specific changes in operations, management, processes, products, business partners, training, or technology.

.21 All disclosure shall be sufficient such that it is specific to the risks the registrant faces, but disclosure itself will not compromise the registrant's ability to maintain data privacy and security.



# Employee Health & Safety

## Description

Employees working in electrical and electronic equipment manufacturing facilities may be exposed to workplace health and safety risks. Ergonomic injuries can result from repeated movements. Mechanical hazards include risks to safety from moving parts and dangerous equipment. Workers are also at risk of inhaling toxic fumes or being in contact with hazardous substances that can have chronic health impacts as a result of repeated or prolonged exposure. Safety culture is critical to proactively guard against accidents or other incidents with negative environmental and social impacts. By maintaining a safe work environment and promoting a culture of safety, companies can minimize risks to their employees and, in turn, avoid direct and indirect costs associated with excessive medical expenses, litigation, work disruptions, and insurance fees.

## Accounting Metrics

### RT0202-06. (1) Total Recordable Injury Rate (TRIR) and (2) Near Miss Frequency Rate

.22 For registrants whose workforce is entirely U.S.-based, the registrant shall disclose its total recordable injury rate (TRIR), as calculated and reported in the Occupational Safety and Health Administration's (OSHA) Form 300.

- OSHA guidelines provide details on determination of whether an event is a recordable occupational incident and definitions for exemptions for incidents that occurred in the work environment but are not occupational.

.23 For registrants whose workforce includes non-U.S.-based employees, the registrant shall calculate its TRIR according to the U.S. Bureau of Labor Statistics [guidance](#) and/or using the U.S. Bureau of Labor Statistics [calculator](#).

.24 The registrant shall disclose its Near Miss Frequency Rate (NMFR), where a near miss is defined as an incident in which no property or environmental damage or personal injury occurred, but where damage or personal injury easily could have occurred but for a slight circumstantial shift.

- The registrant should refer to organizations such as the National Safety Council (NSC) for guidance on implementing near miss reporting.
- The registrant should disclose its process for classifying, identifying, and reporting near miss incidents.

.25 The registrant shall disclose its TRIR and NMFR for each of the following categories of employee:

- Direct, full-time employees
- Contract employees

.26 The scope includes all employees, domestic and foreign.

.27 Rates shall be calculated as: (statistic count / total hours worked) \* 200,000.

### RT0202-07. Discussion of efforts to assess, monitor, and reduce exposure of employees and contract workers to long-term (chronic) health risks

.28 The registrant shall discuss efforts to assess, monitor, and reduce exposure of employees to human health hazards including, but not limited to, corrosives, sensitizers, hepatotoxins, nephrotoxins, and neurotoxins, as well as known

or suspected carcinogens, teratogens, mutagens and reprotoxins, as described by the Occupational Safety and Health Administration (OSHA).<sup>17</sup>

- The scope of disclosure shall focus on employees working in production facilities, but should include all employees as relevant.
- .29 Relevant efforts to discuss include, but are not limited to, risk assessments, participation in long-term health studies, completion of occupational exposure limit reviews, implementation of technology to control worker exposure, worker use of personal protective equipment, automation of processes, and phasing out, substituting, or using alternative materials.
- .30 The registrant may choose to discuss implementation of relevant management systems, including but not limited to, tracking safety and health metrics, management system metrics, and obtaining third-party verification.

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<sup>17</sup> OSHA Hazard Communication Standard (29 CFR 1910.1200): <https://www.osha.gov/dsg/hazcom/ghd053107.html>  
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# Product Lifecycle Management & Innovation

## Description

Electrical and electronic equipment companies face increasing challenges associated with environmental externalities attributed to product design, manufacturing, use, and disposal. Specifically, companies must address the environmental externalities associated with the use of toxic materials, their product's environmental efficiency during the use phase, and the impact that products have during disposal in their end-of-life stage. Furthermore, these companies can develop products that solve key economic and social issues that can create large opportunities for early developers. These innovations includes reduced toxicity, enhanced energy and water efficiency, reduced air and greenhouse gas emissions, and sustainable end-of-life disposal. Managing lifecycle impacts of products could contribute to shareholder value through improved competitive positioning, greater market share, lower regulatory demand, and reduced supply chain and health risks.

## Accounting Metrics

### RT0202-08. Percentage of products by revenue that contain IEC 62474 declarable substances

- .31 The registrant shall calculate the percentage as: the revenue, in U.S. dollars, from products that contain declarable substances according to International Electrotechnical Commission's IEC 62474 - Material Declaration for Products of and for the Electrotechnical Industry, divided by total revenue from electrical, electronic, and related technology products.
- .32 A product contains a declarable substance if, according to IEC 62474, it contains an amount of the substance above the "reporting threshold," is within the scope of the "reporting application" identified, and for which the "reporting requirement" is mandatory.
- .33 The IEC 62474 database of declarable substance groups and declarable substances may be [interactively queried](#), or the complete list may be downloaded as an Excel spreadsheet.

#### Note to RT0202-08

- .34 The registrant shall discuss its approach to managing the use of substances that appear as declarable substance groups or declarable substances in IEC 62474, including specific operational processes that take these substances into consideration.
- .35 Relevant operational processes may include, but are not limited to, product design, materials and parts procurement, product safety testing, product labeling, and product declarations (e.g. material safety data sheets).
- .36 Relevant actions to discuss may include the exclusion of substances (e.g. banned substances lists), use of material substitution assessments, product labeling, or any other methods considering usage of substances from these lists.
- .37 If the registrant assesses and manages the impact of known or potentially toxic substances with reference to other regulations, industry norms, or accepted chemical lists, it may choose to identify those practices, and it shall describe the degree of overlap with IEC 62474.

### RT0202-09. Percentage of eligible products by revenue meeting ENERGY STAR® criteria

- .38 The registrant shall calculate the percentage as: the revenue, in U.S. dollars, from products meeting the requirements for ENERGY STAR certification, divided by total revenue from products eligible for ENERGY STAR certification.
  - Eligible products are those in a product category for which ENERGY STAR certification exists.

.39 The scope of disclosure includes products meeting the criteria of the most current version of the applicable ENERGY STAR standard.

- If the registrant has products certified to a previous version of an ENERGY STAR standard, it shall disclose this information, including the version of the standard to which its products are certified, a breakdown of how many products are certified to that version of the standard, and its timelines to achieve certification to the most current version of the standard.

#### **RT0202-10. Percentage of products from remanufactured or reused parts**

.40 The registrant shall disclose the percentage of its raw materials (by cost of goods sold) that are remanufactured or reused, where:

- Reused materials are defined as those recovered products, or components of products, that are used for the same purpose for which they were previously used.
- Remanufactured materials are defined as recovered products, or components of products, that have been reprocessed and made into a final product, or made into a component for incorporation into a product.
- Portions of products and materials that are disposed are not considered reused or remanufactured; only the portions of products or components that are directly incorporated into new products shall be included in the percentage from remanufactured or reused parts.
- The scope of disclosure is products sold during the fiscal year.

.41 The percentage from remanufactured or reused parts is calculated as the total cost of remanufactured or reused parts, divided by the total cost of goods sold for all products, including those products which do not contain any remanufactured or reused parts.

#### **RT0202-11. Total energy cost savings achieved through energy performance contracts**

.42 The registrant shall disclose total energy cost savings achieved through energy performance contracts in U.S. dollars (\$), where:

- Energy performance contracts are financing techniques that use cost savings from reduced energy consumption to repay the cost of energy conservation measures (ECMs). Energy performance contracts may include contracts with the federal government, as well as those with state or local governments or private enterprises.
- The scope of total energy cost savings includes both energy cost savings and energy-related cost savings achieved through energy performance contracts that follow a methodology substantially similar, or equivalent, to the U.S. Department of Energy (DOE), Federal Energy Management Program's (FEMP) Energy Savings Performance Contracts (ESPC).<sup>18</sup>
  - Energy Cost Savings are defined as a reduction in the cost of energy, water, or wastewater treatment from the baseline cost established in the contract as a result of: (1) installation of energy conservation measure(s); (2) the lease or purchase of operating equipment, improvements, altered operations and maintenance, or technical services; or (3) the increased efficient use of existing energy sources by cogeneration or heat recovery.
  - Energy-Related Cost Savings are defined as a reduction in expenses (other than energy cost savings) related to energy-consuming equipment, generally related to equipment operations, maintenance, renewal, replacement, or repair expenses. One-time energy-related cost savings can result from avoided expenditures of operations and maintenance (O&M) or repair and replacement (R&R) funds, or from

<sup>18</sup> Practical Guide to Savings and Payments in FEMP ESPC Task Orders Rev. January 3, 2009, available online: [http://energy.gov/sites/prod/files/2013/10/f3/practguide\\_sav\\_paymnts.pdf](http://energy.gov/sites/prod/files/2013/10/f3/practguide_sav_paymnts.pdf)

avoided capital expenditures for projects (e.g., equipment replacement) that, because of the energy performance contract project, will not be necessary.

- Energy Conservation Measures (ECMs) are defined as measures applied to a building or facility that improve energy efficiency, are life cycle cost effective under 10 CFR Part 436, Subpart A, and involve energy conservation, cogeneration facilities, renewable energy sources, improvements in operation and maintenance efficiencies, or retrofit activities. For purposes of this definition, “improves energy efficiency” is not limited to a more efficient conversion of energy; rather, when renewable energy is substituted for conventional energy fuels, resulting in the reduced usage of conventional energy sources, such a substitution constitutes “improved energy efficiency.”<sup>19</sup>

.43 Energy cost savings and energy-related cost savings shall be calculated in aggregate, as the reduction in costs resulting from implementation of ECMs, consistent with methods outlined for the U.S. DOE’s FEMP ESPCs, or equivalent.<sup>20</sup>

.44 Energy cost savings shall be calculated on an annual basis over the post-acceptance performance period for each related energy performance contract, consistent with the measurement and verification methods outlined by the U.S. DOE’s FEMP M&V Guidelines, or equivalent.<sup>21</sup>

.45 The registrant may choose to disclose the reduction in energy consumption, in gigajoules or its multiples, achieved through its use of ECMs under its energy performance contracts.

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<sup>19</sup> U.S. Department of Energy, Indefinite Delivery Indefinite Quantity, Energy Savings Performance Contract guidance is available online: [http://energy.gov/sites/prod/files/2013/10/f3/generic\\_idiq\\_espc\\_contract.pdf](http://energy.gov/sites/prod/files/2013/10/f3/generic_idiq_espc_contract.pdf)

<sup>20</sup> <http://energy.gov/eere/femp/resources-implementing-energy-savings-performance-contracts>

<sup>21</sup> M&V Guidelines: Measurement and Verification for Federal Energy Projects, Version 3.0 guidance available online: [http://www1.eere.energy.gov/femp/pdfs/mv\\_guidelines.pdf](http://www1.eere.energy.gov/femp/pdfs/mv_guidelines.pdf)

# Business Ethics & Competitive Behavior

## Description

Electrical and electronic equipment manufacturers have been under increasing scrutiny by authorities over the use of anticompetitive business practices. In colluding to fix prices or conducting other anticompetitive behavior, companies may willingly or unknowingly act like a cartel, and violate antitrust laws in the U.S., E.U., or other countries. Similarly, companies have been found in violation of corruption and antibribery laws, such as the Foreign Corrupt Practices Act and the U.K. Bribery Act. Some companies have also been found to infringe on patents of other companies and faced significant fines for violating intellectual property rights in the countries where they operate. These anticompetitive and unethical practices may jeopardize future revenue growth due to reputational risks, and can result in significant fines and litigation costs that may be considered material to investors.

## Accounting Metrics

### **RT0202-12. Description of the management system for prevention of corruption and bribery throughout the value chain**

- .46 The registrant shall discuss its management system and due diligence procedures for assessing and managing corruption and bribery risks internally and associated with business partners in its value chain.
- Relevant business partners include customers, suppliers, contractors, subcontractors, and JV partners.
- .47 Relevant aspects of a management system include employee awareness programs, internal mechanisms for reporting and following up on suspected violations, and anticorruption policies.
- .48 The registrant may choose to discuss the implementation of one or more of the following:
- Key Organization for Economic Co-operation and Development (OECD) [guidelines](#)
  - International Chamber of Commerce (ICC): Rules of Conduct against Extortion and Bribery
  - Transparency International: Business Principles for Countering Bribery
  - United Nations Global Compact: 10th Principle
  - World Economic Forum (WEF): Partnering Against Corruption Initiative (PACI)

### **RT0202-13. Amount of legal and regulatory fines and settlements associated with charges of bribery or corruption**

- .49 The registrant shall disclose the amount (excluding legal fees) of all fines or settlements associated with incidents relating to bribery and corruption, including, but not limited to, violations of the Foreign Corrupt Practices Act of 1977 (FCPA) (15 U.S.C. § 78dd-1, *et seq.*).
- .50 Disclosure shall include civil actions (e.g., civil judgment, settlements, or regulatory penalties) and criminal actions (e.g., criminal judgment, penalties, or restitutions) taken by any entity (government, businesses, or individuals).

#### Note to **RT0202-13**

- .51 The registrant shall briefly describe the nature (e.g., guilty plea, deferred agreement, or non-prosecution agreement) and context (e.g., bribing an official, etc.) of fines and settlements.

- .52 The registrant shall describe any corrective action it has implemented as a result of each incident. This may include, but is not limited to, specific changes in operations, management, processes, products, business partners, training, or technology.
- .53 All disclosure shall be sufficient such that it is specific to the risks the registrant faces, but disclosure itself will not compromise the registrant's ability to maintain data privacy and security.

**RT0202-14. Amount of legal and regulatory fines and settlements associated with anti-competitive practices**

- .54 The registrant shall disclose the amount (excluding legal fees) of all fines or settlements associated with anticompetitive behavior, such as those related to enforcement of U.S. laws and regulations on price-fixing, antitrust behavior (e.g., exclusivity contracts), patent misuse, or network effects and bundling of services and products to limit competition including violations of the Sherman Antitrust Act of 1890 and the Clayton Antitrust Act of 1914.
- .55 Disclosure shall include civil actions (e.g., civil judgment, settlements, or regulatory penalties) and criminal actions (e.g., criminal judgment, penalties, or restitutions) taken by any entity (government, businesses, or individuals).

Note to **RT0202-14**

- .56 The registrant shall briefly describe the nature (e.g., guilty plea, deferred agreement, or non-prosecution agreement) and context (e.g., price-fixing, patent misuse, antitrust, etc.) of fines and settlements.
- .57 The registrant shall describe any corrective action it has implemented as a result of each incident. This may include, but is not limited to, specific changes in operations, management, processes, products, business partners, training, or technology.

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# Materials Sourcing

## Description

Supply chain management for the Electrical & Electronic Equipment industry involves the sourcing and efficient use of critical and conflict-free minerals. There are also material sourcing risks related to rare earth minerals and metals due to a low substitution ratio, concentration of deposits in only a few countries, and geopolitical considerations. Electrical equipment companies also face competition from increasing global demand for these minerals from other sectors. Along with supply constraints, this can result in significant price increases and/or supply chain risks. All of the conflict minerals—tin, tantalum, tungsten, and gold—are used in electronic equipment manufacturing, and could represent a significant cost for companies to comply with these new regulations. Benefits could be gained by a company's ability and speed to reduce dependency on conflict and rare earth minerals, and to comply with all current and future forms of regulation relative to peers.

## Accounting Metrics

### RT0202-15. Percentage of material costs for items containing critical materials

.58 The registrant shall calculate the percentage as: the cost of raw materials that contain critical materials divided by total materials cost of goods sold.

- The scope of disclosure includes materials costs for parts, components, commodities, associated freight, and storage, and excludes those for overhead, labor, recalls, warranties, or other costs of goods sold.

.59 A critical material is defined as one that is both essential in use and subject to the risk of supply restriction.<sup>22</sup>

.60 At a minimum, the scope of critical materials includes the following minerals and metals:

- Antimony, cobalt, fluorspar, gallium, germanium, graphite, indium, magnesium, niobium, tantalum, and tungsten;
- Platinum group metals (platinum, palladium, iridium, rhodium, ruthenium and osmium);
- 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).

### RT0202-16. Percentage of tungsten, tin, tantalum, and gold smelters within the supply chain that are verified conflict-free

.61 The registrant shall calculate the percentage as: the number of tungsten, tin, tantalum, and gold smelters and/or refineries within its supply chain that are verified to be conflict-free, divided by the total number of tungsten, tin, tantalum, and gold smelters and/or refineries within its supply chain.

.62 A smelter or refiner is considered to be conflict-free if it can demonstrate compliance with:

- The Electronic Industry Citizenship Coalition (EICC) and Global e-Sustainability Initiatives (GeSI) Conflict-Free Smelter Program (CFSP) assessment protocols.
- The Responsible Jewellery Council's (RJC) Chain-of-Custody (CoC) Standard.

<sup>22</sup> National Research Council. *Minerals, Critical Minerals, and the U.S. Economy*. Washington, DC: The National Academies Press, 2008.  
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- .63 A smelter or refinery is considered to be within the registrant’s supply chain if it supplies, or is approved to supply, tungsten, tin, tantalum, or gold that is contained in any product the registrant manufactures or contracts to be manufactured.
- The scope includes smelters or refineries that supply material directly to the registrant as well as those that supply material to any of its suppliers of raw materials, components, or subassemblies.

**RT0202-17. Discussion of the management of risks associated with the use of critical materials and conflict minerals**

- .64 The registrant shall discuss its strategic approach to managing its risks associated with usage of critical materials and conflict minerals in its products, including physical limits on availability, access, price, and reputational risks.
- .65 The registrant should identify which materials and minerals present a risk to its operations, which type of risk they represent, and the strategies the registrant uses to mitigate the risk.
- .66 For critical materials, relevant strategies to discuss include diversification of suppliers, stockpiling of materials, expenditures in R&D for alternative and substitute materials, and investments in recycling technology for critical materials.
- .67 For conflict minerals, relevant strategies to discuss include due diligence practices, supply chain auditing, supply chain engagement, and partnerships with industry groups or non-governmental development organizations.

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**SUSTAINABILITY ACCOUNTING STANDARDS BOARD®**

75 Broadway, Suite 202  
San Francisco, CA 94111  
415.830.9220  
info@sasb.org

[www.sasb.org](http://www.sasb.org)



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# INDUSTRIAL MACHINERY & GOODS

## Sustainability Accounting Standard

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Sustainable Industry Classification System™ (SICS™) #RT0203

Prepared by the  
Sustainability Accounting Standards Board®

OCTOBER 2014  
EXPOSURE DRAFT FOR PUBLIC COMMENT

# INDUSTRIAL MACHINERY & GOODS

## Sustainability Accounting Standard

### About SASB

The Sustainability Accounting Standards Board (SASB) provides sustainability accounting standards for use by publicly listed corporations in the U.S. in disclosing material sustainability information for the benefit of investors and the public. SASB standards are designed for disclosure in mandatory filings to the Securities and Exchange Commission (SEC), such as the Form 10-K and 20-F. SASB is an independent 501(c)3 nonprofit organization. Through 2016, SASB is developing standards for more than 80 industries in 10 sectors.

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### SUSTAINABILITY ACCOUNTING STANDARDS BOARD

75 Broadway, Suite 202  
San Francisco, CA 94111  
415.830.9220

[info@sasb.org](mailto:info@sasb.org)

[www.sasb.org](http://www.sasb.org)

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# INTRODUCTION

## Purpose & Structure

This document contains the SASB Sustainability Accounting Standard (SASB Standard) for the Industrial Machinery & Goods industry.

SASB Standards are comprised of **(1) disclosure guidance and (2) accounting standards on sustainability topics** for use by U.S. and foreign public companies in their annual filings (Form 10-K or 20-F) with the U.S. Securities and Exchange Commission (SEC). To the extent relevant, SASB Standards may also be applicable to other periodic mandatory filings with the SEC, such as the Form 10-Q, Form S-1, and Form 8-K.

SASB's disclosure guidance identifies sustainability topics at an industry level, which may be material— depending on a company's specific operating context— to a company within that industry.

Each company is ultimately responsible for determining which information is material and is therefore required to be included in its Form 10-K or 20-F and other periodic SEC filings.

SASB's accounting standards provide companies with standardized accounting metrics to account for performance on industry-level sustainability topics. When making disclosure on sustainability topics, companies adopting SASB's accounting standards will help to ensure that disclosure is standardized and therefore useful, relevant, comparable, and auditable.

## Industry Description

The Industrial Machinery & Goods industry manufactures equipment for the construction, agriculture, energy, utility, mining, manufacturing, automotive, transportation, and other manufacturing sectors. Products include diesel engines, earth-moving equipment, trucks, tractors, ships, industrial pumps, locomotives, and turbines. The industry is composed of several major segments, including agricultural machinery, construction machinery, manufacturing machinery, energy equipment, and industrial process machinery. Machinery manufacturers purchase raw material inputs, including primarily steel, cast iron, plastics, rubber, paints, and glass. Manufacturers may also perform the machining and casting of parts before final assembly. Within the broader industry, companies compete largely on product quality, innovation, customer service, and brand strength.



# Guidance for Disclosure of Material Sustainability Topics in SEC Filings

## 1. Industry-Level Sustainability Disclosure Topics

For the Industrial Machinery & Goods industry, SASB has identified the following sustainability disclosure topics:

- Employee Health & Safety
- Materials Efficiency
- Fuel Economy & Use-phase Emissions
- Materials Sourcing

## 2. Company-Level Determination and Disclosure of Material Sustainability Topics

Sustainability disclosures are governed by the same laws and regulations that govern disclosures by securities issuers generally. According to the U.S. Supreme Court, a fact is material if, in the event such fact is omitted from a particular disclosure, there is “a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the ‘total mix’ of the information made available.”<sup>1,2</sup>

SASB has attempted to identify those sustainability topics that it believes may be material for all companies within each SICS industry. SASB recognizes, however, that each company is ultimately responsible for determining what is material to it.

Regulation S-K, which sets forth certain disclosure requirements associated with Form 10-K and other SEC filings, requires companies, among other things, to describe in the Management’s Discussion and Analysis of Financial Condition and Results of Operations (MD&A) section of Form 10-K “any known trends or uncertainties that have had or that the registrant reasonably expects will have a material favorable or unfavorable impact on net sales or revenues or income from continuing operations. If the registrant knows of events that will cause a material change in the relationship between costs and revenues (such as known future increases in costs of labor or materials or price increases or inventory adjustments), the change in the relationship shall be disclosed.”<sup>2</sup>

Furthermore, Instructions to Item 303 state that the MD&A “shall focus specifically on material events and uncertainties known to management that would cause reported financial information not to be necessarily indicative of future operating results or of future financial condition.”<sup>2</sup>

In determining whether a trend or uncertainty should be disclosed, the SEC has stated that management should use a two-part assessment based on probability and magnitude:

First, a company is not required to make disclosure about a known trend or uncertainty if its management determines that such trend or uncertainty is not reasonably likely to occur.

Second, if a company’s management cannot make a reasonable determination of the likelihood of an event or uncertainty, then disclosure is required unless management determines that a material effect on the registrant’s financial condition or results of operation is not reasonably likely to occur.

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<sup>1</sup> TSC Industries v. Northway, Inc., 426 U.S. 438 (1976).

<sup>2</sup> C.F.R. 229.303(Item 303)(a)(3)(ii).

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### 3. Sustainability Accounting Standard Disclosures in Form 10-K

#### a. Management's Discussion and Analysis

Companies should consider making disclosure on sustainability topics as a complete set in the MD&A, in a subsection titled "**Sustainability Accounting Standards Disclosures.**"<sup>3</sup>

#### b. Other Relevant Sections of Form 10-K

In addition to the MD&A section, companies should consider disclosing sustainability information in other sections of Form 10-K, as relevant, including:

**Description of business**—Item 101 of Regulation S-K requires a company to provide a description of its business and its subsidiaries. Item 101(c)(1)(xii) expressly requires disclosure regarding certain costs of complying with environmental laws:

Appropriate disclosure also shall be made as to the material effects that compliance with Federal, State and local provisions which have been enacted or adopted regulating the discharge of materials into the environment, or otherwise relating to the protection of the environment, may have upon the capital expenditures, earnings and competitive position of the registrant and its subsidiaries.

**Legal proceedings**—Item 103 of Regulation S-K requires companies to describe briefly any material pending or contemplated legal proceedings. Instructions to Item 103 provide specific disclosure requirements for administrative or judicial proceedings arising from laws and regulations that target discharge of materials into the environment or that are primarily for the purpose of protecting the environment.

**Risk factors**—Item 503(c) of Regulation S-K requires filing companies to provide a discussion of the most significant factors that make an investment in the registrant speculative or risky, clearly stating the risk and specifying how a particular risk affects the particular filing company.

#### c. Rule 12b-20

Securities Act Rule 408 and Exchange Act Rule 12b-20 require a registrant to disclose, in addition to the information expressly required by law or regulation, "such further material information, if any, as may be necessary to make the required statements, in light of the circumstances under which they are made, not misleading."

More detailed guidance on disclosure of material sustainability topics can be found in the **SASB Conceptual Framework**, available for download via <http://www.sasb.org/approach/conceptual-framework/>.

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<sup>3</sup> SEC [Release Nos. 33-8056; 34-45321; FR-61] [Commission Statement about Management's Discussion and Analysis of Financial Condition and Results of Operations](#): "We also want to remind registrants that disclosure must be both useful and understandable. That is, management should provide the most relevant information and provide it using language and formats that investors can be expected to understand. Registrants should be aware also that investors will often find information relating to a particular matter more meaningful if it is disclosed in a single location, rather than presented in a fragmented manner throughout the filing."

# Guidance on Accounting of Material Sustainability Topics

For sustainability disclosure topics in the Industrial Machinery & Goods industry, SASB identifies accounting metrics.

SASB recommends that each company consider using these sustainability accounting metrics when disclosing its performance with respect to each of the sustainability topics it has identified as material.

As appropriate—and consistent with Rule 12b-20<sup>4</sup>—for each sustainability topic, companies should consider including a narrative description of any material factors necessary to ensure completeness, accuracy, and comparability of the data reported. Where not addressed by the specific accounting metrics, but relevant, the registrant should discuss the following, related to the topic:

- The registrant's **strategic approach** to managing performance on material sustainability issues;

- The registrant's competitive positioning;

- The **degree of control** the registrant has;

- Any measures the registrant has undertaken, or plans to undertake, to improve performance;

- Data for the registrant's **last three completed fiscal years** (when available).

SASB recommends that registrants use SASB Standards specific to their primary industry, as identified in the [Sustainable Industry Classification System \(SICS™\)](#). If a registrant generates significant revenue from multiple industries, SASB recommends that it consider the materiality of the sustainability issues that SASB has identified for those industries, and disclose the associated SASB accounting metrics.

## Users of the SASB Standards

The SASB Standards are intended for companies that engage in public offerings of securities registered under the Securities Act of 1933 (the Securities Act) and those that issue securities registered under the Securities Exchange Act of 1934 (the Exchange Act),<sup>5</sup> for use in SEC filings, including, without limitation, annual reports on Form 10-K (Form 20-F for foreign issuers), quarterly reports on Form 10-Q, current reports on Form 8-K, and registration statements on Forms S-1 and S-3. Nevertheless, disclosure with respect to the SASB Standards is not required or endorsed by the SEC or other entities governing financial reporting, such as FASB, GASB, or IASB.

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<sup>4</sup> SEC Rule 12b-20: "In addition to the information expressly required to be included in a statement or report, there shall be added such further material information, if any, as may be necessary to make the required statements, in the light of the circumstances under which they are made, not misleading."

<sup>5</sup> Registration under the Securities Exchange Act of 1934 is required (1) for securities to be listed on a national securities exchange, such as the New York Stock Exchange, the NYSE Amex, and the NASDAQ Stock Market, or (2) if (A) the securities are equity securities and are held by more than 2,000 persons (or 500 persons who are not accredited investors) and (B) the company has more than \$10 million in assets.

# Scope of Disclosure

Unless otherwise specified, SASB recommends:

That a registrant disclose on sustainability issues and metrics for itself and for entities in which the registrant has a controlling interest and therefore are consolidated for financial reporting purposes (controlling interest is generally defined as ownership of 50% or more of voting shares);<sup>6</sup>

That for consolidated entities, disclosures be made, and accounting metrics calculated, for the whole entity, regardless of the size of the minority interest; and

That information from unconsolidated entities not be included in the computation of SASB accounting metrics. A registrant should disclose, however, information about unconsolidated entities to the extent that the registrant considers the information necessary for investors to understand its performance with respect to sustainability issues (typically, this disclosure would be limited to risks and opportunities associated with these entities).

## Reporting Format

### Activity Metrics and Normalization

SASB recognizes that normalizing accounting metrics is important for the analysis of SASB disclosures.

SASB recommends that a registrant disclose any basic business data that may assist in the accurate evaluation and comparability of disclosure, to the extent that they are not already disclosed in the Form 10-K (e.g., revenue, EBITDA, etc.).

Such data—termed “activity metrics”—may include high-level business data such as total number of employees, quantity of products produced or services provided, number of facilities, or number of customers. It may also include industry-specific data such as plant capacity utilization (e.g., for specialty chemical companies), number of transactions (e.g., for Internet media and services companies), hospital bed days (e.g., for health care delivery companies), or proven and probable reserves (e.g., for oil and gas exploration and production companies).

Activity metrics disclosed should:

Convey contextual information that would not otherwise be apparent from SASB accounting metrics.

Be deemed generally useful for users of SASB accounting metrics (e.g., investors) in performing their own calculations and creating their own ratios.

Be explained and consistently disclosed from period to period to the extent they continue to be relevant. However, a decision to make a voluntary disclosure in one period does not obligate a continuation of that disclosure if it is no longer relevant or if a better metric becomes available.

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<sup>6</sup> See U.S. GAAP consolidation rules (Section 810).  
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Where relevant, SASB recommends specific activity metrics that—at a minimum—should accompany SASB accounting metric disclosures.

ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE
Number of units produced by product category <sup>7</sup>	Quantitative	Number	RT0203-A
Number of employees, percentage in manufacturing role	Quantitative	Number, Percentage (%)	RT0203-B

## Units of Measure

Unless specified, disclosures should be reported in International System of Units (SI units).

## Uncertainty

SASB recognizes that there may be inherent uncertainty when disclosing certain sustainability data and information. This may be related to variables such as the imperfectness of third-party reporting systems or the unpredictable nature of climate events. Where uncertainty around a particular disclosure exists, SASB recommends that the registrant should consider discussing its nature and likelihood.

## Estimates

SASB recognizes that scientifically-based estimates, such as the reliance on certain conversion factors or the exclusion of *de minimis* values, may be necessary for certain quantitative disclosures. Where appropriate, SASB does not discourage the use of such estimates. When using an estimate for a particular disclosure, SASB expects that the registrant discuss its nature and substantiate its basis.

## Timing

Unless otherwise specified, disclosure shall be for the registrant's fiscal year.

## Limitations

There is no guarantee that SASB Standards address all sustainability impacts or opportunities associated with a sector, industry, or company, and therefore, a company must determine for itself the topics—sustainability-related or otherwise—that warrant discussion in its SEC filings.

Disclosure under SASB Standards is voluntary. It is not intended to replace any legal or regulatory requirements that may be applicable to user operations. Where such laws or regulations address legal or regulatory topics, disclosure under SASB Standards is not meant to supersede those requirements. Disclosure according to SASB Standards shall not be construed as demonstration of compliance with any law, regulation, or other requirement.

SASB Standards are intended to be aligned with the principles of materiality enforced by the SEC. However, SASB is not affiliated with or endorsed by the SEC or other entities governing financial reporting, such as FASB, GASB, or IASB.

<sup>7</sup> Note to RT0203-A – The registrant shall indicate the number of units produced for each of the following production categories, reflecting the major segments within the industry: agricultural machinery, construction machinery, manufacturing machinery, energy equipment, and industrial process machinery.

# Forward-looking Statements

Disclosures on sustainability topics can involve discussion of future trends and uncertainties related to the registrant's operations and financial condition, including those influenced by external variables (e.g., environmental, social, regulatory, and political). Companies making such disclosures should familiarize themselves with the safe harbor provisions of Section 27A of the Securities Act and Section 21E of the Exchange Act, which preclude civil liability for material misstatements or omissions in such statements if the registrant takes certain steps, including, among other things, identifying the disclosure as "forward-looking" and accompanying such disclosure with "meaningful cautionary statements identifying important factors that could cause actual results to differ materially from those in the forward-looking statements."

## Assurance

In disclosing to SASB Standards, it is expected that registrants disclose with the same level of rigor, accuracy, and responsibility as they apply to all other information contained in their SEC filings.

SASB encourages registrants to use independent assurance (attestation); for example, an Examination Engagement to AT Section 101.

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# Table 1. Sustainability Disclosure Topics & Accounting Metrics

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	CODE
<b>Employee Health &amp; Safety</b>	(1) Total recordable injury rate and (2) fatality rate for (a) full-time employees and (b) contract employees	Quantitative	Rate	RT0203-01
<b>Fuel Economy &amp; Use-phase Emissions</b>	Sales-weighted fleet fuel efficiency for medium and heavy-duty vehicles <sup>8</sup>	Quantitative	Gallons per 1,000 Ton-mile	RT0203-02
	Sales-weighted fleet fuel efficiency for stationary generators	Quantitative	Watt/gallon	RT0203-03
	Sales-weighted fleet emissions for: (1) marine diesel engines (2) locomotive diesel engines, and (3) other non-road diesel engines <sup>9</sup>	Quantitative	Grams per kilowatt-hour	RT0203-04
<b>Materials Efficiency</b>	Percentage of products from remanufactured or reused parts	Quantitative	Percentage (%) by COGS	RT0203-05
	Amount of waste, percentage recycled	Quantitative	Tons (t), Percentage (%)	RT0203-06
<b>Materials Sourcing</b>	Percentage of materials costs for items containing critical materials	Quantitative	Percentage (%) by COGS	RT0203-07
	Percentage of tungsten, tin, tantalum, and gold smelters within the supply chain that are verified conflict-free	Quantitative	Percentage (%)	RT0203-08
	Discussion of the management of risks associated with the use of critical materials and conflict minerals	Discussion and Analysis	n/a	RT0203-09

<sup>8</sup> Note to RT0203-02 – Disclosure shall include the registrant’s sales-weighted HD National Program Fuel Consumption Standards requirement for its medium- and heavy-duty vehicles.

<sup>9</sup> Note to RT0203-04 – Disclosure shall include the registrant’s sales-weighted emissions requirements pursuant to 40 CFR §94 (marine engines), §1033 (locomotive engines), or §1039 (non-road diesel engines).

# Employee Health & Safety

## Description

Employees working in industrial machinery manufacturing facilities may be exposed to workplace health and safety risks. Poor ventilation and the high temperatures required for certain processes can create difficult working conditions. Ergonomic injuries can result from repeated movements. Mechanical hazards include risks to safety from moving parts and dangerous equipment. Workers are also at risk of inhaling toxic fumes or being in contact with hazardous substances that can have chronic health impacts as a result of repeated or prolonged exposure. Safety culture is critical to proactively guard against accidents or other incidents with negative environmental and social impacts. By maintaining a safe work environment and promoting a culture of safety, companies can minimize risks to their employees and, in turn, avoid direct and indirect costs associated with excessive medical expenses, litigation, work disruptions and insurance fees.

## Accounting Metrics

### **RT0203-01. (1) Total recordable injury rate and (2) fatality rate for (a) full-time employees and (b) contract employees**

- .01 For registrants whose workforce is entirely U.S.-based, the registrant shall disclose its total recordable injury rate (TRIR) and fatality rate, as calculated and reported in OSHA Form 300.
  - OSHA guidelines provide details on determination of whether an event is a recordable occupational incident, and definitions for exemptions for incidents that occurred in the work environment but are not occupational.
- .02 For registrants whose workforce includes non-U.S.-based employees, the registrant shall calculate its total recordable injury rate according to the U.S. Bureau of Labor Statistics guidance and/or using the U.S. Bureau of Labor Statistics calculator.
- .03 The registrant shall disclose its TRIR separately for its full-time employees and for contract employees, including independent contractors and those employed by third parties (e.g., temp agencies, labor brokers, etc.).
- .04 The scope includes all employees, domestic and foreign.
- .05 Rates shall be calculated as:  $(\text{statistic count} / \text{total hours worked}) * 200,000$ .



# Fuel Economy & Use-phase Emissions

## Description

Consumer and regulatory concern over climate change and other environmental impacts is increasing demand for machinery products that operate with minimal environmental and human health externalities. Many of the industry's products also release GHGs and other air emissions during use, and consume water and other materials. Emissions regulations are driving mandatory fuel efficiency improvements, while customers also seek greater efficiency to lower fuel costs. Companies in the industry are adapting to this trend by offering products with improved fuel efficiency, lower particulate matter and greenhouse gas emissions, and material efficiency. Companies that are innovative in increasing fuel economy and use-phase emissions will be better positioned to expand market share and manage changing regulations around fuel economy.

## Accounting Metrics

### RT0203-02. Sales-weighted fleet fuel efficiency for medium- and heavy-duty vehicles

.06 The registrant shall disclose its sales-weighted average fleet fuel efficiency for medium- and heavy-duty vehicles, where:

- Fleet fuel efficiency is the average fuel economy of its medium- and heavy-duty commercial vehicles sold during the fiscal year, measured in gallons per 1,000 ton-miles.
- The scope of disclosure includes vehicles in the fleet weighing 8,500 pounds or more, and which are covered under the Heavy Duty (HD) National Program, including combination tractors (commonly known as semi-trucks), heavy-duty pickup trucks and vans, and vocational vehicles.

### Note to RT0203-02

.07 The registrant shall disclose its HD National Program Fuel Consumption Standards requirement for its medium- and heavy-duty vehicles, where:

- The fuel consumption standards requirement is a sales-weighted fuel efficiency threshold defined by the HD National Program in the U.S., as issued and regulated by the National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (EPA).

.08 The ratio of these sales-weighted values provides a normalized fuel efficiency premium, reflecting actual vehicle fuel efficiency performance relative to the required fuel efficiency threshold.

### RT0203-03. Sales-weighted fuel efficiency for stationary generators

.09 The registrant shall disclose the sales-weighted average fuel efficiency of its stationary generators, where:

- Sales-weighted fuel efficiency is the average fuel efficiency of its stationary generators sold during the fiscal year, measured in watts per gallon.

.10 The sales weighted fuel efficiency is calculated as the harmonic mean of design fuel efficiency in watts per gallon, where:

- The harmonic mean is the reciprocal of the average of the reciprocal values. The harmonic mean captures the average amount of fuel needed by each generator to produce a given amount of power.

**RT0203-04. Sales-weighted fleet emissions for: (1) marine diesel engines (2) locomotive diesel engines, and (3) other non-road diesel engines**

.11 The registrant shall disclose the sales-weighted average fleet emissions for (1) marine diesel engines (2) locomotive diesel engines, and (3) other non-road diesel engines, where:

- Fleet emissions are the average emissions of nitrogen oxides (NO<sub>x</sub>) and particulate matter (PM) for engines sold during the fiscal year, measured in grams per kilowatt-hour.
- The scope of disclosure includes non-road diesel engines, defined as any engine that is designed to operate with diesel fuel and that meets the definition of non-road engine in [40 CFR 1068.30](#), including locomotive and marine diesel engines, and which are covered under the air emissions standards in 40 CFR §94 (marine engines), §1033 (locomotive engines), or §1039 (non-road diesel engines), e.g. non-road diesel engines subject to the U.S. EPA Tier X emissions standards<sup>10</sup>.

**Note to RT0203-04**

.12 The registrant shall disclose the regulatory emissions standards for its (a) marine diesel engines (b) locomotive diesel engines, and (c) other non-road diesel engines, where:

- The emissions standards requirement pursuant to 40 CFR §94 (marine engines), §1033 (locomotive engines), or §1039 (non-road diesel engines), is a sales-weighted emissions threshold based on the mix of engine types sold during the fiscal year.

.13 The ratio of these sales-weighted values provides a normalized emissions premium, reflecting engine emissions performance relative to the required emissions threshold.

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<sup>10</sup> Various engine types that are covered under 40 CFR §94 (marine engines), §1033 (locomotive engines), or §1039 (non-road diesel engines) are at different cycles of regulatory thresholds as follows: boat, ship, tanker, and bulk carrier marine diesel engines (Tier 3), line-haul, switch, and passenger locomotive diesel engines (Tier 4); and construction, agricultural, and utility non-road diesel engines (Tier 4).

# Materials Efficiency

## Description

Industrial machinery manufacturing generates process waste including: scrap steel, plastics, and rubber. A significant portion of industrial machinery manufacturers' revenue is spent on the cost of materials. Due to constrained resources, material prices are likely to increase in the future. Therefore, companies that are able to manage their inputs through reducing and recycling manufacturing waste, as well as reusing parts, are likely to be better protected from price volatility. Moreover, industrial machinery manufacturers can achieve substantial savings and improve operational efficiency by reducing waste and using materials more efficiently.

## Accounting Metrics

### RT0203-05. Percentage of products from remanufactured or reused parts

.14 The registrant shall disclose the percentage of its raw materials (by cost of goods sold) that are remanufactured or reused, where:

- Reused materials are defined as those recovered products, or components of products, that are used for the same purpose for which they were previously used.
- Remanufactured materials are defined as recovered products, or components of products, that have been reprocessed and made into a final product, or made into a component for incorporation into a product.
- Portions of products and materials that are disposed are not considered reused or remanufactured; only the portions of products or components that are directly incorporated into new products shall be included in the percentage from remanufactured or reused parts.
- The scope of disclosure is products sold during the fiscal year.

.15 The percentage from remanufactured or reused parts is calculated as the total cost of remanufactured or reused parts, divided by the total cost of goods sold for all products, including those products that do not contain any remanufactured or reused parts.

### RT0203-06. Amount of waste, percentage recycled

.16 The amount of total waste shall be calculated in metric tons, where waste is defined as anything for which the registrant has no further use and that would otherwise be discarded or released to the environment.

- The scope includes both hazardous and non-hazardous wastes.
- Non-hazardous waste includes any Subtitle D Solid Waste as defined by the Resource Conservation and Recovery Act (RCRA) (40 CFR § 261.2), which includes, but is not limited to, durable goods, non-durable goods, containers and packaging, and miscellaneous inorganic wastes.<sup>11</sup>
- Hazardous waste includes any Subtitle C Hazardous Waste as defined by RCRA. Hazardous wastes include those that display the following characteristics: ignitability, corrosivity, reactivity, or toxicity.

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<sup>11</sup> <http://www.epa.gov/reg3wcmd/solidwastesummary.htm#waste>

.17 The percentage recycled shall be calculated as the weight of waste material that was reused, plus the weight recycled, reclaimed, or remanufactured (through treatment or processing) by the registrant, plus the amount sent externally for further reuse, recycling, or remanufacturing, divided by the total weight of waste material, where:

- A hazardous waste is recycled if it is used, reused, or reclaimed. Furthermore, RCRA hazardous waste regulation makes an important distinction between materials that are used or reused without reclamation, and those that must be reclaimed before reuse. A material is reclaimed if it is processed to recover a usable product, or if it is regenerated. Common hazardous waste reclamation activities involve recovery of spent solvents (e.g., recovery of acetone) or metals (e.g., recovery of lead).<sup>12</sup>
- Reused materials are defined as those recovered products or components of products that are used for the same purpose for which they were conceived.
- Recycled and remanufactured materials are defined as waste materials that have been reprocessed or treated by means of production or manufacturing processes and made into a final product or made into a component for incorporation into a product.
- 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).
- Portions of products and materials that are disposed of in landfills are not considered recycled; only the portions of products that are directly incorporated into new products, co-products, or by-products shall be included in the percentage recycled.
- Materials sent for further recycling include those materials that are transferred to a third party for the expressed purpose of reuse, recycling, or refurbishment.
- Materials incinerated including for energy recovery are not considered reused or recycled. Energy recovery is defined as the use of combustible waste as a means to generate energy through direct incineration, with or without other waste, but with recovery of the heat.

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<sup>12</sup> <http://www.epa.gov/solidwaste/hazard/recycling/index.htm>

# Materials Sourcing

## Description

Industrial machinery companies are exposed to supply chain risks when sourcing rare earth or “conflict” minerals and metals for products. A significant portion of revenue in this industry is spent on the cost of materials, particularly for high value metals, many of which are coming under increasing regulatory scrutiny. There are material sourcing risks of these metals due to a low substitution ratio, concentration of deposits in only a few countries, and geopolitical considerations. Companies in this industry also face competition from increasing global demand for these minerals from other sectors that can result in significant price increases and supply chain risks. Companies that are able to limit the use of critical and conflict materials, as well as securing their supply, would not only minimize environmental and social externalities related to extraction, but also protect themselves from supply disruptions and volatile input prices.

## Accounting Metrics

### RT0203-07. Percentage of material costs for items containing critical materials

.18 The registrant shall calculate the percentage as: the cost of raw materials that contain critical materials, divided by total materials cost of goods sold.

- The scope of disclosure includes materials costs for parts, components, commodities, associated freight, and storage, and excludes those for overhead, labor, recalls, warranties, or other costs of goods sold.

.19 A critical material is defined as one that is both essential in use and subject to the risk of supply restriction.<sup>13</sup>

.20 At a minimum, the scope of critical materials includes the following minerals and metals:

- Antimony, cobalt, fluorspar, gallium, germanium, graphite, indium, magnesium, niobium, tantalum, and tungsten;
- Platinum group metals (platinum, palladium, iridium, rhodium, ruthenium and osmium);
- 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).

### RT0203-08. Percentage of tungsten, tin, tantalum, and gold smelters within the supply chain that are verified conflict-free

.21 The registrant shall calculate the percentage as: the number of tungsten, tin, tantalum, and gold smelters and/or refineries within its supply chain that are verified to be conflict-free, divided by the total number of tungsten, tin, tantalum, and gold smelters and/or refineries within its supply chain.

.22 A smelter or refiner is considered to be conflict-free if it can demonstrate compliance with:

- The Electronic Industry Citizenship Coalition (EICC) and Global e-Sustainability Initiatives (GeSI) Conflict-Free Smelter Program (CFSP) assessment protocols.
- The Responsible Jewellery Council’s (RJC) Chain-of-Custody (CoC) Standard.

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<sup>13</sup> National Research Council. *Minerals, Critical Minerals, and the U.S. Economy*. Washington, DC: The National Academies Press, 2008.

- .23 A smelter or refinery is considered to be within the registrant’s supply chain if it supplies, or is approved to supply, tungsten, tin, tantalum, or gold that is contained in any product the registrant manufactures or contracts to be manufactured.

The scope includes smelters or refineries that supply material directly to the registrant, as well as those that supply material to any of its suppliers of raw materials, components, or subassemblies.

**RT0203-09. Discussion of the management of risks associated with the use of critical materials and conflict minerals**

- .24 The registrant shall discuss its strategic approach to managing its risks associated with usage of critical materials and conflict minerals in its products, including physical limits on availability, access, price, and reputational risks.
- .25 The registrant should identify which materials and minerals present a risk to its operations, which type of risk they represent, and the strategies the registrant uses to mitigate the risk.
- .26 For critical materials, relevant strategies to discuss include diversification of suppliers, stockpiling of materials, expenditures in R&D for alternative and substitute materials, and investments in recycling technology for critical materials.
- .27 For conflict minerals, relevant strategies to discuss include due diligence practices, supply chain auditing, supply chain engagement, and partnerships with industry groups or nongovernmental development organizations.

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**SUSTAINABILITY ACCOUNTING STANDARDS BOARD®**

75 Broadway, Suite 202  
San Francisco, CA 94111  
415.830.9220  
info@sasb.org

[www.sasb.org](http://www.sasb.org)





SUSTAINABILITY ACCOUNTING STANDARD  
RESOURCE TRANSFORMATION SECTOR

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# CONTAINERS & PACKAGING

## Sustainability Accounting Standard

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Sustainable Industry Classification System™ (SICS™) #RT0204

Prepared by the  
Sustainability Accounting Standards Board®

OCTOBER 2014  
EXPOSURE DRAFT FOR PUBLIC COMMENT

# CONTAINERS & PACKAGING

## Sustainability Accounting Standard

### About SASB

The Sustainability Accounting Standards Board (SASB) provides sustainability accounting standards for use by publicly listed corporations in the U.S. in disclosing material sustainability information for the benefit of investors and the public. SASB standards are designed for disclosure in mandatory filings to the Securities and Exchange Commission (SEC), such as the Form 10-K and 20-F. SASB is an independent 501(c)3 nonprofit organization. Through 2016, SASB is developing standards for more than 80 industries in 10 sectors.

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[info@sasb.org](mailto:info@sasb.org)

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# INTRODUCTION

## Purpose & Structure

This document contains the SASB Sustainability Accounting Standard (SASB Standard) for the Containers & Packaging industry.

SASB Standards are comprised of **(1) disclosure guidance and (2) accounting standards on sustainability topics** for use by U.S. and foreign public companies in their annual filings (Form 10-K or 20-F) with the U.S. Securities and Exchange Commission (SEC). To the extent relevant, SASB Standards may also be applicable to other periodic mandatory filings with the SEC, such as the Form 10-Q, Form S-1, and Form 8-K.

SASB's disclosure guidance identifies sustainability topics at an industry level, which may be material— depending on a company's specific operating context— to a company within that industry.

Each company is ultimately responsible for determining which information is material and is therefore required to be included in its Form 10-K or 20-F and other periodic SEC filings.

SASB's accounting standards provide companies with standardized accounting metrics to account for performance on industry-level sustainability topics. When making disclosure on sustainability topics, companies adopting SASB's accounting standards will help to ensure that disclosure is standardized and therefore useful, relevant, comparable, and auditable.

## Industry Description

The Containers & Packaging industry includes companies that manufacture a large range of products and services using metal, plastic, paper, and glass materials. These include corrugated cardboard packaging, food and beverage containers, household product bottles, aluminum cans, steel drums, and other forms of packaging. Collectively, the glass, metal, plastic and paper containers and packaging industry share similar hurdles and business characteristics. Raw material inputs for the industry represent a significant cost to manufacturers, as the industry is heavily tied to commodity prices for raw materials. Paper container manufacturers are the largest subsegment; transforming paper pulp from virgin and recycled sources into various packaging forms. The competitive landscape among glass, plastic, metal, and paper container and packaging companies largely depends on consumer preferences and raw material costs. Due to the nature of the products, domestic containers and packaging manufacturers face little competition from imports, as it is not typically economical to ship inexpensive or empty containers. As a result, most operations are located relatively close to their end market.

# Guidance for Disclosure of Material Sustainability Topics in SEC Filings

## 1. Industry-Level Sustainability Disclosure Topics

For the Containers & Packaging industry, SASB has identified the following sustainability disclosure topics:

- Greenhouse Gas Emissions
- Energy Management
- Air Quality
- Water Management
- Hazardous Materials Management
- Product Safety
- Product Lifecycle Management & Innovation
- Materials Sourcing

## 2. Company-Level Determination and Disclosure of Material Sustainability Topics

Sustainability disclosures are governed by the same laws and regulations that govern disclosures by securities issuers generally. According to the U.S. Supreme Court, a fact is material if, in the event such fact is omitted from a particular disclosure, there is “a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the ‘total mix’ of the information made available.”<sup>1,2</sup>

SASB has attempted to identify those sustainability topics that it believes may be material for all companies within each SICS industry. SASB recognizes, however, that each company is ultimately responsible for determining what is material to it.

Regulation S-K, which sets forth certain disclosure requirements associated with Form 10-K and other SEC filings, requires companies, among other things, to describe in the Management’s Discussion and Analysis of Financial Condition and Results of Operations (MD&A) section of Form 10-K “any known trends or uncertainties that have had or that the registrant reasonably expects will have a material favorable or unfavorable impact on net sales or revenues or income from continuing operations. If the registrant knows of events that will cause a material change in the relationship between costs and revenues (such as known future increases in costs of labor or materials or price increases or inventory adjustments), the change in the relationship shall be disclosed.”<sup>2</sup>

Furthermore, Instructions to Item 303 state that the MD&A “shall focus specifically on material events and uncertainties known to management that would cause reported financial information not to be necessarily indicative of future operating results or of future financial condition.”<sup>2</sup>

In determining whether a trend or uncertainty should be disclosed, the SEC has stated that management should use a two-part assessment based on probability and magnitude:

First, a company is not required to make disclosure about a known trend or uncertainty if its management determines that such trend or uncertainty is not reasonably likely to occur.

Second, if a company’s management cannot make a reasonable determination of the likelihood of an event or uncertainty, then disclosure is required unless management determines that a material effect on the registrant’s financial condition or results of operation is not reasonably likely to occur.

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<sup>1</sup> TSC Industries v. Northway, Inc., 426 U.S. 438 (1976).

<sup>2</sup> C.F.R. 229.303(item 303)(a)(3)(ii).

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### 3. Sustainability Accounting Standard Disclosures in Form 10-K

#### a. Management's Discussion and Analysis

Companies should consider making disclosure on sustainability topics as a complete set in the MD&A, in a subsection titled "**Sustainability Accounting Standards Disclosures.**"<sup>3</sup>

#### b. Other Relevant Sections of Form 10-K

In addition to the MD&A section, companies should consider disclosing sustainability information in other sections of Form 10-K, as relevant, including:

**Description of business**—Item 101 of Regulation S-K requires a company to provide a description of its business and its subsidiaries. Item 101(c)(1)(xii) expressly requires disclosure regarding certain costs of complying with environmental laws:

Appropriate disclosure also shall be made as to the material effects that compliance with Federal, State and local provisions which have been enacted or adopted regulating the discharge of materials into the environment, or otherwise relating to the protection of the environment, may have upon the capital expenditures, earnings and competitive position of the registrant and its subsidiaries.

**Legal proceedings**—Item 103 of Regulation S-K requires companies to describe briefly any material pending or contemplated legal proceedings. Instructions to Item 103 provide specific disclosure requirements for administrative or judicial proceedings arising from laws and regulations that target discharge of materials into the environment or that are primarily for the purpose of protecting the environment.

**Risk factors**—Item 503(c) of Regulation S-K requires filing companies to provide a discussion of the most significant factors that make an investment in the registrant speculative or risky, clearly stating the risk and specifying how a particular risk affects the particular filing company.

#### c. Rule 12b-20

Securities Act Rule 408 and Exchange Act Rule 12b-20 require a registrant to disclose, in addition to the information expressly required by law or regulation, "such further material information, if any, as may be necessary to make the required statements, in light of the circumstances under which they are made, not misleading."

More detailed guidance on disclosure of material sustainability topics can be found in the **SASB Conceptual Framework**, available for download via <http://www.sasb.org/approach/conceptual-framework/>.

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<sup>3</sup> [SEC \[Release Nos. 33-8056; 34-45321; FR-61\] Commission Statement about Management's Discussion and Analysis of Financial Condition and Results of Operations](#): "We also want to remind registrants that disclosure must be both useful and understandable. That is, management should provide the most relevant information and provide it using language and formats that investors can be expected to understand. Registrants should be aware also that investors will often find information relating to a particular matter more meaningful if it is disclosed in a single location, rather than presented in a fragmented manner throughout the filing."

# Guidance on Accounting of Material Sustainability Topics

For sustainability disclosure topics in the Containers & Packaging industry, SASB identifies accounting metrics.

SASB recommends that each company consider using these sustainability accounting metrics when disclosing its performance with respect to each of the sustainability topics it has identified as material.

As appropriate—and consistent with Rule 12b-20<sup>4</sup>—for each sustainability topic, companies should consider including a narrative description of any material factors necessary to ensure completeness, accuracy, and comparability of the data reported. Where not addressed by the specific accounting metrics, but relevant, the registrant should discuss the following, related to the topic:

- The registrant's **strategic approach** to managing performance on material sustainability issues;

- The registrant's competitive positioning;

- The **degree of control** the registrant has;

- Any measures the registrant has undertaken or plans to undertake to improve performance; and

- Data for the registrant's **last three completed fiscal years** (when available).

SASB recommends that registrants use SASB Standards specific to their primary industry, as identified in the [Sustainable Industry Classification System \(SICS™\)](#). If a registrant generates significant revenue from multiple industries, SASB recommends that it consider the materiality of the sustainability issues that SASB has identified for those industries, and disclose the associated SASB accounting metrics.

## Users of the SASB Standards

The SASB Standards are intended for companies that engage in public offerings of securities registered under the Securities Act of 1933 (the Securities Act) and those that issue securities registered under the Securities Exchange Act of 1934 (the Exchange Act),<sup>5</sup> for use in SEC filings, including, without limitation, annual reports on Form 10-K (Form 20-F for foreign issuers), quarterly reports on Form 10-Q, current reports on Form 8-K, and registration statements on Forms S-1 and S-3. Nevertheless, disclosure with respect to the SASB Standards is not required or endorsed by the SEC or other entities governing financial reporting, such as FASB, GASB, or IASB.

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<sup>4</sup> SEC Rule 12b-20: "In addition to the information expressly required to be included in a statement or report, there shall be added such further material information, if any, as may be necessary to make the required statements, in the light of the circumstances under which they are made, not misleading."

<sup>5</sup> Registration under the Securities Exchange Act of 1934 is required (1) for securities to be listed on a national securities exchange, such as the New York Stock Exchange, the NYSE Amex, and the NASDAQ Stock Market, or (2) if (A) the securities are equity securities and are held by more than 2,000 persons (or 500 persons who are not accredited investors) and (B) the company has more than \$10 million in assets.



# Scope of Disclosure

Unless otherwise specified, SASB recommends:

That a registrant disclose on sustainability issues and metrics for itself and for entities in which the registrant has a controlling interest and therefore are consolidated for financial reporting purposes (controlling interest is generally defined as ownership of 50% or more of voting shares);<sup>6</sup>

That for consolidated entities, disclosures be made, and accounting metrics calculated, for the whole entity, regardless of the size of the minority interest; and

That information from unconsolidated entities not be included in the computation of SASB accounting metrics. A registrant should disclose, however, information about unconsolidated entities to the extent that the registrant considers the information necessary for investors to understand its performance with respect to sustainability issues (typically, this disclosure would be limited to risks and opportunities associated with these entities).

## Reporting Format

### Activity Metrics and Normalization

SASB recognizes that normalizing accounting metrics is important for the analysis of SASB disclosures.

SASB recommends that a registrant disclose any basic business data that may assist in the accurate evaluation and comparability of disclosure, to the extent that they are not already disclosed in the Form 10-K (e.g., revenue, EBITDA, etc.).

Such data—termed “activity metrics”—may include high-level business data such as total number of employees, quantity of products produced or services provided, number of facilities, or number of customers. It may also include industry-specific data such as plant capacity utilization (e.g., for specialty chemical companies), number of transactions (e.g., for Internet media and services companies), hospital bed days (e.g., for health care delivery companies), or proven and probable reserves (e.g., for oil and gas exploration and production companies).

Activity metrics disclosed should:

Convey contextual information that would not otherwise be apparent from SASB accounting metrics.

Be deemed generally useful for users of SASB accounting metrics (e.g., investors) in performing their own calculations and creating their own ratios.

Be explained and consistently disclosed from period to period to the extent they continue to be relevant. However, a decision to make a voluntary disclosure in one period does not obligate a continuation of that disclosure if it is no longer relevant or if a better metric becomes available.

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<sup>6</sup> See U.S. GAAP consolidation rules (Section 810).  
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Where relevant, SASB recommends specific activity metrics that—at a minimum—should accompany SASB accounting metric disclosures.

ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE
Tons of packaging materials produced	Quantitative	Tons (t)	RT0204-A
Percentage of production as (a) paper/wood, (b) glass, (c) metal, and (d) plastic	Quantitative	Percentage (%) by revenue	RT0204-B
Number of employees, percentage in manufacturing role	Quantitative	Number, Percentage (%)	RT0204-C

## Units of Measure

Unless specified, disclosures should be reported in International System of Units (SI units).

## Uncertainty

SASB recognizes that there may be inherent uncertainty when disclosing certain sustainability data and information. This may be related to variables such as the imperfectness of third-party reporting systems or the unpredictable nature of climate events. Where uncertainty around a particular disclosure exists, SASB recommends that the registrant should consider discussing its nature and likelihood.

## Estimates

SASB recognizes that scientifically-based estimates, such as the reliance on certain conversion factors or the exclusion of *de minimis* values, may be necessary for certain quantitative disclosures. Where appropriate, SASB does not discourage the use of such estimates. When using an estimate for a particular disclosure, SASB expects that the registrant discuss its nature and substantiate its basis.

## Timing

Unless otherwise specified, disclosure shall be for the registrant's fiscal year.

## Limitations

There is no guarantee that SASB Standards address all sustainability impacts or opportunities associated with a sector, industry, or company, and therefore, a company must determine for itself the topics—sustainability-related or otherwise—that warrant discussion in its SEC filings.

Disclosure under SASB Standards is voluntary. It is not intended to replace any legal or regulatory requirements that may be applicable to user operations. Where such laws or regulations address legal or regulatory topics, disclosure under SASB Standards is not meant to supersede those requirements. Disclosure according to SASB Standards shall not be construed as demonstration of compliance with any law, regulation, or other requirement.

SASB Standards are intended to be aligned with the principles of materiality enforced by the SEC. However, SASB is not affiliated with or endorsed by the SEC or other entities governing financial reporting, such as FASB, GASB, or IASB.

# Forward-looking Statements

Disclosures on sustainability topics can involve discussion of future trends and uncertainties related to the registrant's operations and financial condition, including those influenced by external variables (e.g., environmental, social, regulatory, and political). Companies making such disclosures should familiarize themselves with the safe harbor provisions of Section 27A of the Securities Act and Section 21E of the Exchange Act, which preclude civil liability for material misstatements or omissions in such statements if the registrant takes certain steps, including, among other things, identifying the disclosure as "forward-looking" and accompanying such disclosure with "meaningful cautionary statements identifying important factors that could cause actual results to differ materially from those in the forward-looking statements."

## Assurance

In disclosing to SASB Standards, it is expected that registrants disclose with the same level of rigor, accuracy, and responsibility as they apply to all other information contained in their SEC filings.

SASB encourages registrants to use independent assurance (attestation); for example, an Examination Engagement to AT Section 101.

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# Table 1. Sustainability Disclosure Topics & Accounting Metrics

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	CODE
<b>Greenhouse Gas Emissions</b>	Gross global Scope 1 emissions, percentage covered under a regulatory program	Quantitative	Metric Tons CO <sub>2</sub> e, Percentage (%)	RT0204-01
	Description of long-term 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	RT0204-02
<b>Energy Management</b>	Total energy consumed, percentage grid electricity, percentage renewable	Quantitative	Gigajoules (GJ), Percentage (%)	RT0204-03
<b>Air Quality</b>	Air emissions for the following pollutants: NO <sub>x</sub> (excluding N <sub>2</sub> O), SO <sub>x</sub> , particulate matter (PM), dioxins, and volatile organic compounds (VOCs)	Quantitative	Metric tons	RT0204-04
<b>Water Management</b>	Total water withdrawn, percentage recycled, percentage in regions with High or Extremely High Baseline Water Stress	Quantitative	Cubic Meters (m <sup>3</sup> ), Percentage (%)	RT0204-05
	Number of incidents of non-compliance with water quality permits, standards, and regulations	Quantitative	Number	RT0204-06
<b>Hazardous Materials Management</b>	Amount of hazardous waste, percentage recycled	Quantitative	Tons (t), Percentage (%)	RT0204-07
	Number and aggregate quantity of reportable releases and spills, quantity recovered	Quantitative	Number, Kilograms (kg)	RT0204-08
<b>Product Safety</b>	Number of recalls and total units recalled <sup>7</sup>	Quantitative	Number	RT0204-09
<b>Product Lifecycle Management &amp; Innovation</b>	Percentage of raw materials from (1) recycled content and (2) renewable resources	Quantitative	Percentage (%) by weight	RT0204-10
	Percentage of products that are (1) reusable, (2) recyclable, and (3) compostable	Quantitative	Percentage (%) by weight	RT0204-11
	Discussion of management approach to minimization of (a) weight and volume of packaging used and (b) noxious or hazardous constituents in packaging	Discussion and Analysis	n/a	RT0204-12
<b>Materials Sourcing</b>	Total wood fiber purchased, percentage from certified sources	Quantitative	Tons (t), Percentage (%) by COGS	RT0204-13
	Percentage of non-wood raw materials sourced in conformance with responsible sourcing standards	Quantitative	Percentage (%) by COGS	RT0204-14

<sup>7</sup> Note to RT0204-09 – Disclosure shall include a discussion of notable recalls, such as those that affected a significant number of one type of product or those related to a serious injury or fatality.

# Greenhouse Gas Emissions

## Description

Containers & Packaging facilities often burn large amounts of fossil fuels in manufacturing and cogeneration processes resulting in direct (Scope 1) emissions of greenhouse gases (GHGs). Many companies, particularly integrated paper manufacturers, are utilizing cogeneration techniques to provide their own energy, gain energy independence, and (in some cases) improve resource efficiency by repurposing process waste. Direct emissions are a source of corporate risk arising from current and potential future regulations in the U.S. and abroad. Financial impacts on companies will vary depending on the specific location of operations and the prevailing emissions regulations. Companies that cost-effectively reduce GHG emissions from their operations by implementing industry-leading technologies and processes can create operational efficiency. They can mitigate the impact on value from increased fuel costs and regulations that limit—or put a price on—carbon emissions, which are occurring as regulatory and public concerns about climate change are increasing in the U.S. and globally.

## Accounting Metrics

### RT0204-01. Gross global Scope 1 emissions, percentage covered under a regulatory program

- .01 The registrant shall disclose gross global Scope 1 greenhouse gas (GHG) emissions to the atmosphere of the six GHGs covered under the Kyoto Protocol (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride).
- Emissions of all gases shall be disclosed in metric tons of carbon dioxide equivalents (CO<sub>2</sub>-e), calculated in accordance with published global warming potential (GWP) factors. To date, the preferred source for GWP factors is the IPCC's Second Assessment Report (1995).
  - Gross emissions are GHGs emitted to the atmosphere before accounting for any GHG reduction activities, offsets, or other adjustments for activities in the reporting period that have reduced or compensated for emissions.
  - Disclosure corresponds to section CC8.2 of the Carbon Disclosure Project (CDP) Questionnaire and section 4.25 of the Climate Disclosure Standards Board (CDSB) *Climate Change Reporting Framework* (CCRF).
- .02 Scope 1 emissions are defined by the World Resources Institute and the World Business Council on Sustainable Development in (WRI/WBCSD) [The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard](#), Revised Edition, March 2004 (hereafter, the "GHG Protocol").
- These emissions include direct emissions of GHGs from stationary or mobile sources that include, but are not limited to, equipment, production facilities, office buildings, and transportation (i.e., marine, road, or rail).
- .03 The registrant shall disclose the percentage of its emissions that are covered under a regulatory program, such as the European Union Emissions Trading Scheme (EU ETS), Western Climate Initiative (WCI), California Cap-and-Trade (California Global Warming Solutions Act), or other regulatory programs.
- Regulatory programs include cap-and-trade schemes and carbon tax/fee systems.
  - Disclosure shall exclude emissions covered under voluntary trading systems and disclosure-based regulations (e.g., the U.S. Environmental Protection Agency (EPA) mandatory reporting rule).
- .04 GHG emission data shall be consolidated according to the approach with which the registrant consolidates its financial reporting data, which is generally aligned with:

- The Financial Control approach defined by the GHG Protocol and referenced by the [CDP Guidance for companies reporting on climate change on behalf of investors & supply chain members 2013](#) (hereafter, the “CDP Guidance”).<sup>8</sup>
  - The approach detailed in Section 4.23, “Organizational boundary setting for GHG emissions reporting,” of the CDSB Climate Change Reporting Framework (CCRF).<sup>9</sup>
- .05 The underlying technical approach to data collection, analysis, and disclosure shall be consistent with the CDP Guidance.
- The registrant shall consider the CDP Guidance as a normative reference, thus any updates made year-on-year shall be considered updates to this guidance.
- .06 The registrant should discuss any change in its emissions from the previous fiscal year, such as explaining if the change was due to emissions reductions, divestment, acquisition, mergers, changes in output, and/or changes in calculation methodology.
- .07 In the case that current reporting of GHG emissions to the CDP or other entity (e.g., a national regulatory disclosure program) differs in terms of the scope and consolidation approach used, the registrant may disclose those emissions. However, primary disclosure shall be according to the guidelines described above.
- .08 The registrant should discuss the calculation methodology for its emission disclosure, such as noting if data are from continuous emissions-monitoring systems (CEMS), engineering calculations, mass balance calculations, etc.

**RT0204-02. Description of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets**

- .09 The registrant shall discuss the following where relevant:
- The scope, such as whether strategies, plans, and/or reduction targets pertain differently to different business units, geographies, or emissions sources;
  - Whether strategies, plans, and/or reduction targets are related to or associated with an emissions disclosure (reporting) or reduction program (e.g., EU ETS, RGGI, WCI, etc.), including regional, national, international, or sectoral programs;
  - The activities and investments required to achieve the plans and any risks or limiting factors that might affect achievement of the plans and/or targets.
- .10 For emissions reduction targets the registrant shall disclose:
- The percentage of emissions within the scope of the reduction plan;
  - The percentage reduction from base year, where the base year is the first year against which emissions are evaluated towards the achievement of the target;

<sup>8</sup> “An organization has financial control over an operation if it has the ability to direct the financial and operating policies of the operation with a view to gaining economic benefits from its activities. Generally an organization has financial control over an operation for GHG accounting purposes if the operation is treated as a group company or subsidiary for the purposes of financial consolidation.” *Guidance for companies reporting on climate change on behalf of investors & supply chain members 2013*, p. 95.

<sup>9</sup> This is based on the requirements of International Accounting Standards/International Financial Reporting Standards (IAS/IFRS) on consolidation and equity accounting and is consistent with how information relating to entities within a group or interest in joint ventures/associates would be included on consolidated financial statements, as per the CDSB *Climate Change Reporting Framework*.

- Whether the target is absolute or intensity-based, and the metric denominator, if it is an intensity-based target;
- The timelines for the reduction activity, including the start year, the target year, and the base year. Disclosure shall be limited to activities that were ongoing (active) or reached completion during the fiscal year;
- The mechanism(s) for achieving the target, such as energy efficiency efforts, energy source diversification, carbon capture and storage, etc.

.11 Where necessary, the registrant shall discuss any circumstances in which the target base year emissions have been or may be recalculated retrospectively, or where the target base year has been reset.

.12 Disclosure corresponds with:

- CDSB Section 4, "Management actions." 10
- CDP questionnaire "CC3. Targets and Initiatives."

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<sup>10</sup> 4.12, "Disclosure shall include a description of the organization's long-term and short-term strategy or plan to address climate change-related risks, opportunities, and impacts, including targets to reduce GHG emissions and an analysis of performance against those targets." *Climate Change Reporting Framework – Edition 1.1*, October 2012, CDSB.

# Energy Management

## Description

Fuel combustion onsite contributes to the Containers & Packaging industry's direct (Scope 1) GHG emissions. However, electricity purchases from the grid create indirect impacts on the climate through Scope 2 emissions. These firms are highly reliant on energy as an input for value creation, due to their energy intensive operations. For the Pulp and Paper Manufacturers (the largest segment), approximately one third of their energy emissions is from electricity, while the rest comes from fuel combustion from other sources. Since electricity consumption indirectly contributes to climate change and air pollution, the cost of grid electricity may increase to offset carbon tax on utilities. With manufacturing and assembly plants located in several regions, the likelihood and impact of climate change regulations will vary depending on the exact location of facilities. Companies that proactively limit their exposure to volatile energy prices and carbon prices by fulfilling part of their energy needs from renewable sources are likely to be better able to manage long-term regulatory risks.

## Accounting Metrics

### RT0204-03. Total energy consumed, percentage grid electricity, percentage renewable

- .13 The registrant shall disclose total energy consumption from all sources as an aggregate figure in gigajoules or their multiples.
- The scope includes energy purchased from sources external to the organization or produced by the organization itself (self-generated).
  - The scope includes only energy consumed by entities owned or controlled by the organization.
  - The scope includes energy from all sources including direct fuel usage, purchased electricity, and heating, cooling, and steam energy.
- .14 In calculating energy consumption from fuels and biofuels, the registrant shall use higher heating values (HHV), also known as gross calorific values (GCV), and which are directly measured or taken from the Intergovernmental Panel on Climate Change (IPCC), the U.S. Department of Energy (DOE), or the U.S. Energy Information Administration (EIA).
- .15 The registrant shall disclose purchased grid electricity consumption as a percentage of its total energy consumption.
- .16 The registrant shall disclose renewable energy consumption as a percentage of its total energy consumption.
- The scope of renewable energy includes renewable fuel the registrant consumes and renewable energy the registrant directly produces, purchases through a renewable power purchase agreement (PPA) that explicitly includes renewable energy certificates (RECs), or for which Green-e Energy Certified RECs are paired with grid electricity.
    - For any renewable electricity generated onsite, any RECs must be retained (i.e., not sold) and retired on behalf of the registrant in order for the registrant to claim them as renewable energy.
    - For renewable PPAs, the agreement must explicitly include and convey that RECs be retained and retired on behalf of the registrant in order for the registrant to claim them as renewable energy.



- The renewable portion of the electricity grid mix that is outside of the control or influence of the registrant is excluded from disclosure.<sup>11</sup>

.17 Renewable energy is defined as energy from sources that are capable of being replenished in a short time through ecological cycles, such as geothermal, wind, solar, hydro, and biomass.

- For the purposes of this disclosure, the scope of renewable energy from hydro and biomass sources are limited to the following:
  - Energy from hydro sources that are certified by the Low Impact Hydropower Institute.
  - Energy from biomass sources are limited to those that are considered “eligible renewables” according to the Green-e Energy National Standard Version 2.4, or eligible for a state Renewable Portfolio Standard.

.18 The registrant 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 kWh to gigajoules (including for electricity from solar or wind energy).

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<sup>11</sup> SASB recognizes that RECs reflect the environmental attributes of renewable energy that have been introduced to the grid, and that a premium has been paid by the purchaser of the REC to enable generation of renewable energy beyond any renewable energy already in the grid mix, absent the market for RECs.

# Air Quality

## Description

In addition to GHGs, which have global impacts, other air emissions from containers and packaging manufacturing can have significant, localized human health and environmental impacts. In general, releases of air pollutants in the Containers and Packaging industry stem from the combustion of fuels, as well as the processing of raw materials. Companies can implement treatment techniques to reduce costs and reuse raw materials necessary for production. The industry's air emissions generate regulatory risk, whereby non-compliance can result in fines and required installation of emissions control technology. Human health impacts and financial consequences are likely to be exacerbated the closer a facility is to a local community. By complying with various regulations and implementing best practices, companies can reduce the burden of regulation and operational expenses, adding value for shareholders.

## Accounting Metrics

### **RT0204-04. Air emissions for the following pollutants: NO<sub>x</sub> (excluding N<sub>2</sub>O), SO<sub>x</sub>, particulate matter (PM), dioxins, and volatile organic compounds (VOCs)**

- .19 The registrant shall disclose its emissions of air pollutants that are released to the atmosphere as a result of its activities:
- Direct air emissions from stationary or mobile sources that include, but are not limited to, production facilities, office buildings, marine vessels transporting products, and truck fleets.
- .20 The registrant shall disclose emissions released to the atmosphere by emissions type. Substances include:
- Oxides of nitrogen (including NO and NO<sub>2</sub> and excluding N<sub>2</sub>O) reported as NO<sub>2</sub>
  - Oxides of sulfur (SO<sub>2</sub> and SO<sub>3</sub>) reported as SO<sub>2</sub>
  - Particulate matter (PM); reported as the sum of PM<sub>10</sub> and PM<sub>2.5</sub>, or all particulates less than 10 micrometers in diameter
  - Dioxins/furans, reported, at a minimum, as the sum of the 17 congeners of polychlorinated dibenzodioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) that contain chlorine
  - Nonmethane volatile organic compounds (VOCs), defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and methane, which participates in atmospheric photochemical reactions, except those designated by the U.S. Environmental Protection Agency (EPA) as having negligible photochemical reactivity
- .21 This scope does not include CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O, which are disclosed in RT0204-01 as Scope 1 GHG emissions.
- .22 Air emissions data shall be consolidated according to the approach with which the registrant consolidates its financial reporting data, which is aligned with the consolidation approach used for RT0204-01.
- .23 The registrant should discuss the calculation methodology for its emission disclosure, such as whether data are from continuous emissions monitoring systems (CEMS), engineering calculations, mass balance calculations, etc.

# Water Management

## Description

Water management, as it relates to the quantity of water used, as well as its use in water scarce regions, is an increasing issue. Companies that release large amounts of effluents may also benefit from avoiding the release of toxic chemicals and byproducts from operations, as they can reduce fines and remediation costs while helping to recover key raw materials used in the production process. Companies that depend on water used in the production process recognize the significant constraints and added costs for operations located in water scarce regions. Particularly, pulp and paper mills located in these areas can face significant disruptions to their access of water. Disclosures around this issue may help analysts understand a company's exposure to water stressed regions and the intensity of water usage relative to peers.

## Accounting Metrics

### **RT0204-05. Total water withdrawn, percentage recycled, percentage in regions with High or Extremely High Baseline Water Stress**

- .24 The registrant shall disclose the amount of water (in thousands of cubic meters) that was withdrawn from fresh water sources for use in operations.
- Fresh water may be defined according to the local statutes and regulations where the registrant operates. Where there is no regulatory definition, fresh water shall be considered to be water that has a solids (TDS) concentration of less than 1000 mg/l, per the Water Quality Association [definition](#).
  - Water obtained from a water utility can be assumed to meet the definition of fresh water.<sup>12</sup>
- .25 The registrant shall disclose the total amount of water by volume (in thousands of cubic meters) that was recycled during the fiscal year. This figure shall include the amount recycled in closed-loop and open-loop systems.
- Any volume of water reused multiple times shall be counted as recycled each time it is recycled and reused.
- .26 Using the World Resources Institute's (WRI) Water Risk Atlas tool, Aqueduct (publicly available online [here](#)), the registrant shall analyze all of its operations for water risks and identify facilities that are in a location with High (40–80%) or Extremely High (>80%) Baseline Water Stress. Water withdrawn in locations with High or Extremely High Baseline Water Stress shall be indicated as a percentage of the total water withdrawn.
- .27 For registrant's operations that are not submetered in a way that allows direct measurement of water use, estimation is acceptable and shall be disclosed as such.

### **RT0204-06. Number of incidents of non-compliance with water quality permits, standards, and regulations**

- .28 The registrant shall disclose the total number of instances of non-compliance, including violations of a technology-based standard and exceedances of a quality-based standard.
- .29 The scope of disclosure includes incidents related to statutory permits and regulations, or voluntary agreements, standards, or guidelines, such as total maximum daily load (TMDL) exceedances.

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<sup>12</sup> <http://water.epa.gov/drink/contaminants/secondarystandards.cfm>

.30 Voluntary standards include, among others, the registrant’s own water quality standards (parameters) or “effluent guidelines” from the International Finance Corporation’s (IFC) Environmental, Health, and Safety Guidelines as outlined in the following industry-specific guidelines:

- Glass Manufacturing,
- Metal, Plastic, and Rubber Products Manufacturing
- Board and Particle-Based Products
- Pulp and Paper Mills<sup>13</sup>

.31 Typical parameters of concern include total nitrogen, total phosphorous, biochemical oxygen demand (BOD), total dissolved solids (TDS), oil and grease, total suspended solids (TSS), and pH.

.32 An incident of non-compliance shall be disclosed, regardless of whether it resulted in an enforcement action (e.g., fine, warning letter, etc.).

.33 Violations, regardless of their measurement methodology or frequency, shall be disclosed. These include:

- For continuous discharges, limitations, standards, and prohibitions that are generally expressed as maximum daily, weekly average, and monthly average.
- For non-continuous discharges, limitations that are generally expressed in terms of frequency, total mass, maximum rate of discharge, and mass or concentrations of specified pollutants.

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<sup>13</sup> [http://www.ifc.org/wps/wcm/connect/Topics\\_Ext\\_Content/IFC\\_External\\_Corporate\\_Site/IFC+Sustainability/Sustainability+Framework/Environmental,+Health,+and+Safety+Guidelines/](http://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/IFC+Sustainability/Sustainability+Framework/Environmental,+Health,+and+Safety+Guidelines/)

# Hazardous Materials Management

## Description

Containers and packaging use hazardous materials and generate waste that can result in significant air, water, and soil pollution. This waste is subject to the Resource Conservation and Recovery Act (RCRA), which regulates disposal and storage of hazardous and solid waste. Improper management of waste can result in significant fines and remedial actions associated with the Clean Air Act, Toxic Substance Control Act, and Superfund Act. Proper processing and disposal of hazardous waste materials are essential to limiting risk of remediation liabilities, fines, and regulations. In addition, companies that are able to limit the waste of input materials and recycle the waste generated, may achieve significant cost savings and improve profitability.

## Accounting Metrics

### RT0204-07. Amount of hazardous waste, percentage recycled

.34 The amount of hazardous waste shall be calculated in metric tons, where:

- Waste is generally defined as anything for which the registrant has no further use and that would otherwise be discarded or released to the environment.
- Hazardous waste includes any Subtitle C Hazardous Waste as defined by the Resource Conservation and Recovery Act (RCRA) (40 CFR § 261). Hazardous wastes include those that display the following characteristics: ignitability, corrosivity, reactivity, or toxicity.

.35 The percentage recycled shall be calculated as the weight of waste material that was reused, plus the weight recycled, reclaimed, or remanufactured (through treatment or processing) by the registrant, plus the amount sent externally for further reuse, recycling, or remanufacturing, divided by the total weight of waste material, where:

- A hazardous waste is recycled if it is used, reused, or reclaimed. Furthermore, RCRA hazardous waste regulation makes an important distinction between materials that are used or reused without reclamation, and those that must be reclaimed before reuse. A material is *reclaimed* if it is processed to recover a usable product, or if it is regenerated. Common hazardous waste reclamation activities involve recovery of spent solvents (e.g., recovery of acetone) or metals (e.g., recovery of lead).<sup>14</sup>
- Reused materials are defined as those recovered products or components of products that are used for the same purpose for which they were conceived.
- Recycled and remanufactured materials are defined as waste materials that have been reprocessed or treated by means of production or manufacturing processes and made into a final product, or made into a component for incorporation into a product.
- 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).
- Portions of products and materials that are disposed of in landfills are not considered recycled; only the

<sup>14</sup> <http://www.epa.gov/solidwaste/hazard/recycling/index.htm>

portions of products that are directly incorporated into new products, co-products, or by-products shall be included in the percentage recycled.

- Materials sent for further recycling include those materials that are transferred to a third party for the expressed purpose of reuse, recycling, or refurbishment.
- Materials incinerated, including for energy recovery, are not considered reused or recycled. Energy recovery is defined as the use of combustible waste as a means to generate energy through direct incineration, with or without other waste, but with recovery of the heat.

#### **RT0204-08. Number and aggregate quantity of reportable releases and spills, quantity recovered**

.36 The registrant shall disclose the total number and quantity (in kilograms) of reportable releases, where:

- Reportable releases are defined as any release of a hazardous substance in an amount equal to or greater than the reportable quantity defined by the U.S. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
- The number of releases shall represent any spills, leaks, emissions, discharges, injections, disposals, and abandonment releases over time, counted once at the time identified, consistent with CERCLA.
- The aggregate quantity reported shall represent the total estimated quantity released that reached the environment, and shall not be reduced by the amount of such hazardous substance subsequently recovered, evaporated, or otherwise lost, consistent with CERCLA.<sup>15</sup>

.37 The registrant may choose to disclose releases to soil and water separately. A release that qualifies as a release to both soil and water should be reported as a single release to water, with the volume properly apportioned to soil and water.

.38 The registrant shall calculate the quantity of releases recovered as the quantity of released hazardous substances (in kilograms) removed from the environment through short-term release response activities, excluding:

- Amounts that were recovered during longer-term remediation at spill sites.
- Amounts that evaporated, burned, or were dispersed.

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<sup>15</sup> <http://www.epa.gov/superfund/policy/release/rq/index.htm#info>

# Product Safety

## Description

The quality and safety of containers and packaging is an important area of concern for packaging companies, since many of their products are used in the food and beverage industry. Some packaging and containers may present problems when they contact food, and have even been found to leach small amounts of chemicals into the food or beverage. Uncertainties and new findings related to consumer health may lead to a shift in consumer preference for certain types of packaging, presenting a risk to manufacturers if they cannot address consumer health and safety concerns. Similarly, poor quality of packaging can lead to unintended consequences, such as increased food spoilage or the tarnished quality of contents, which may result in product recalls. Recalls can be a significant expense for companies and can jeopardize contracts and future business. Being proactive about ensuring quality and safety of containers and packaging can protect companies from reputational risk, as well as risk of litigation and penalties.

## Accounting Metrics

### RT0204-09. Number of recalls and total units recalled

.39 The registrant shall disclose the number of unique recall incidents and the total number of units recalled, where:

- A recall is defined as any repair, replacement, refund, or notice/warning program intended to protect consumers from products that present a safety risk.<sup>16</sup>
- Total number of units recalled refers to the combined quantity of products that were recalled as part of any recall, during the fiscal year.
- The scope of disclosure includes voluntary recalls initiated by the registrant, as well as involuntary recalls mandated by regulatory agencies. Excluded from the scope of disclosure are products provided to customers for the explicit purpose of testing.
- Involuntary recalls are those required by regulatory agencies, and are issued when a container or package does not comply with regulatory safety standards, or when there is a safety-related defect in containers or packaging products.
- Governmental agencies with regulatory oversight include, but are not limited to, the following:
  - Food and Drug Administration (FDA)
  - U.S. Department of Agriculture Food and Safety Inspection Service (FSIS)
  - Centers for Disease Control (CDC)
  - Consumer Product Safety Commission (CPSC)
  - European Food Safety Authority (EFSA)
  - Canadian Food Inspection Agency (CFIA)

.40 The registrant may choose, in addition to total units recalled, to disclose the percentage of recalls that were (1) voluntarily and (2) involuntarily issued.

<sup>16</sup> Consistent with the U.S. Consumer Product Safety Commission's Recall Handbook, available online at: <http://www.cpsc.gov/PageFiles/106141/8002.pdf>

Note to **RT0204-09**

.41 The registrant shall discuss notable recalls, such as those that affected a significant number of products, units of one product, or those related to serious injury or fatality.

.42 For such recalls, the registrant should provide:

- description and cause of the recall issue
- the total number of units recalled
- cost to remedy the issue (in U.S. dollars)
- whether the recall was voluntary or involuntary
- corrective actions
- any other significant outcomes (e.g. legal proceedings, fatalities)

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# Product Lifecycle Management & Innovation

## Description

Containers and packaging companies face increasing challenges associated with environmental and social externalities attributed to product design and disposal. Advancements in material usage and innovations in design of packaging are playing a critical role in the demand for certain packaging products. Designing for the end-of-life treatment of packaging is an important opportunity for manufacturers to avoid potential legislation and negative perceptions. While the sustainability performance of products depends largely on the type, use, and ultimate disposal of materials, companies that effectively manage the sustainability characteristics of their products may be better positioned to capture more market share with shifting consumer demand.

## Accounting Metrics

### RT0204-10. Percentage of raw materials from (1) recycled content and (2) renewable resources

- .43 The registrant shall disclose the percentage of raw materials (by weight) for containers and packaging products from recycled content, where:
- Recycled content is defined as materials that have been recovered or otherwise diverted from the waste stream. Recycled content includes recycled raw material, as well as used, reconditioned, and remanufactured components, consistent with the FTC Green Guides. Recycled content can be either pre-consumer or post-consumer waste.
  - The percentage is calculated as the total weight of raw materials from recycled content, divided by the total weight of all raw materials for containers and packaging products.
- .44 The registrant shall disclose the percentage of raw materials (by weight) for containers and packaging products from renewable resources, where:
- Renewable resources are defined as those that either increase in quantity or otherwise renew over a short (i.e. economically relevant) period of time, such that if the rate of extraction takes account of limitations in the reproductive capacity of the resource, renewables can provide yields over an infinite time horizon.<sup>17</sup>
  - The percentage is calculated as the total weight of raw materials from renewable resources, divided by the total weight of all raw materials for containers and packaging products.
- .45 For raw materials that are both recycled content and renewable, the registrant may choose which category best reflects the nature of the material, but should not include a single material in both categories.
- .46 For component raw materials that contain both recycled and virgin parts, or which are made from both renewable and nonrenewable resources, the registrant may classify a portion of the material as recycled or renewable based on an estimate of the weight of each portion. Alternatively, the registrant may exclude that item from consideration as recycled or renewable, but should include it in the total weight of raw materials.

### RT0204-11. Percentage of products that are (1) reusable, (2) recyclable, and (3) compostable

- .47 The registrant shall disclose the percentage of containers and packaging products by revenue that are reusable, where:

<sup>17</sup> [http://www.wto.org/english/res\\_e/booksp\\_e/anrep\\_e/wtr10-2b\\_e.pdf](http://www.wto.org/english/res_e/booksp_e/anrep_e/wtr10-2b_e.pdf)

- Reusable is defined as a durable packaging product, able to be reused multiple times for the original purpose for which it was conceived.
- The percentage is calculated as the total revenue from reusable containers and packaging products, divided by the total revenue from all containers and packaging products.

.48 The registrant shall disclose the percentage of products by revenue that are recyclable, where:

- Recyclable is defined as able to be reprocessed for the original purpose or for other purposes. A product or package is recyclable if it can be collected, separated, or otherwise recovered from the waste stream through an established recycling program for reuse or use in manufacturing, or in assembling another item, consistent with the FTC Green Guides.
- The percentage is calculated as the total revenue from recyclable containers and packaging products, divided by the total revenue from all containers and packaging products.

.49 The registrant shall disclose the percentage of products by revenue that are compostable, where:

- Compostable is defined as that which undergoes degradation by biological processes during composting to yield CO<sub>2</sub>, water, inorganic compounds, and biomass at a rate consistent with other known compostable materials and that leaves no visible, distinguishable, or toxic residue. Compostable plastics are further defined by ASTM Standard D6400, 2004 - Standard Specification for Compostable Plastics.
- The percentage is calculated as the total revenue from compostable containers and packaging products, divided by the total revenue from all containers and packaging products.

.50 For products that are reusable, recyclable, and/or compostable, the registrant may choose which category best reflects the nature of the material, but should not include a single material in multiple categories.

**RT0204-12. Discussion of management approach to minimization of (1) weight and volume of packaging used and (2) noxious or hazardous constituents in packaging**

.51 The registrant shall discuss its management approach to minimizing lifecycle impacts from products, such as reducing packaging weight and volume for a given application, or reducing the toxicity of raw materials and residuals of packaging content.

.52 Relevant disclosure may include, but is not limited to, the following:

- Implementation of the “Essential Requirements” in Article 9, Annex II of the E.U. Directive on Packaging and Packaging Waste (94/62/EC) which includes minimization of packaging weight and volume to the amount needed for safety, hygiene and consumer acceptance of the packed product, minimization of noxious or hazardous constituents, and suitability for reuse, material recycling, energy recovery, or composting.
- Performance on the Sustainable Packaging Coalition’s Material Use metrics, such as Material Use to Packaged Product Yield, or Materials Health metrics, such as Toxicants Concentration and/or Toxicants Migration.<sup>18</sup>
- Performance on the Global Protocol on Packaging Sustainability 2.0 metrics for Packaging Weight and Optimization, and/or Assessment and Minimization of Substances Hazardous to the Environment.<sup>19</sup>

<sup>18</sup> *Sustainable Packaging Indicators and Metrics Framework*, developed by the Sustainable Packaging Coalition®, available online: [http://www.sustainablepackaging.org/Uploads/Resources/spc\\_indicator\\_metrics\\_framework.pdf](http://www.sustainablepackaging.org/Uploads/Resources/spc_indicator_metrics_framework.pdf)

<sup>19</sup> *Global Protocol on Packaging Sustainability 2.0*, available online at: [http://globalpackaging.mycgforum.com/allfiles/GPPS\\_2.pdf](http://globalpackaging.mycgforum.com/allfiles/GPPS_2.pdf)

- .53 The registrant may choose to discuss LCA analysis of its products in the context of its management approach to maximizing product efficiency, including: weight reduction, transportation efficiency, and reduced toxicity. Packaging product efficiency and health should be discussed in terms of Lifecycle Assessments (LCA) functional unit service parameters (i.e. time, extent, and quality of function).<sup>20</sup>

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<sup>20</sup> Functional unit concept is further discussed in the *Global Protocol on Packaging Sustainability 2.0*, available online at: [http://globalpackaging.mycforum.com/allfiles/GPPS\\_2.pdf](http://globalpackaging.mycforum.com/allfiles/GPPS_2.pdf)

# Materials Sourcing

## Description

Materials sourcing for containers and packaging companies involves the sustainable sourcing practices of raw materials, including recycled and virgin materials. Paper packaging companies are using various third-party certifications, like the Sustainable Forestry Initiative (SFI) and the Forest Stewardship Council (FSC) in an effort to verify the responsible sourcing of virgin wood materials. These third-party certifications are important as companies look for greater Chain-of-Custody certification, which verifies that materials, both virgin and recycled, are from responsible, well-managed forests that do not have negative social and environmental impacts. Companies that implement responsible sourcing efforts into their supply chains may be better insulated from illegal and unethical activities that result in reputational harm to the organization. Companies that are using certifications to meet market demand will be better positioned to expand market share, and to manage changing customer requests and regulations.

## Accounting Metrics

### RT0204-13. Total wood fiber purchased, percentage from certified sources

- .54 The registrant shall disclose the total weight of wood fiber-based raw materials purchased during the fiscal year.
- .55 The registrant shall disclose the percentage of its wood fiber-based raw materials (on a cost of goods sold [COGS] basis) that are sourced consistent with relevant responsible sourcing standards, where:
- Responsible sourcing is defined as use of procurement policies, decisions, and practices to manage and ensure the attainment of environmental and social objectives by procuring materials with a certified provenance.<sup>21</sup>
  - The scope of responsible sourcing standards includes, but is not limited to, protection of natural resources, fair treatment of workers and community, and resource efficiency.
- .56 The percentage is calculated as the cost of wood fiber-based raw materials that are sourced consistent with responsible sourcing standards, divided by the total cost of wood fiber-based raw materials.
- .57 Responsible sourcing standards for wood-based materials include the following, or equivalent:
- Forest Stewardship Council (FSC) (i.e., FSC 100% label, and FSC Mixed Sources and FSC Recycled labels),
  - Sustainable Forest Initiative (SFI),
  - Programme for the Endorsement of Forest Certification (PEFC).

### RT0204-14. Percentage of non-wood raw materials sourced in conformance with responsible sourcing standards

- .58 The registrant shall disclose the percentage of its non-wood-based raw materials (on a COGS basis) that are sourced consistent with relevant responsible sourcing standards, where:

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<sup>21</sup> Adapted from "The Role of Responsible Sourcing in Creating a Sustainable Construction Supply Chain," ISBN: 9789052693958. Available online: [http://www.academia.edu/922758/The\\_Role\\_of\\_Responsible\\_Sourcing\\_in\\_Creating\\_a\\_Sustainable\\_Construction\\_Supply-Chain](http://www.academia.edu/922758/The_Role_of_Responsible_Sourcing_in_Creating_a_Sustainable_Construction_Supply-Chain)

- Responsible sourcing is defined as use of procurement policies, decisions, and practices to manage and ensure the attainment of environmental and social objectives by procuring materials with a certified provenance.<sup>22</sup>
- The scope of responsible sourcing standards includes, but is not limited to, protection of natural resources, fair treatment of workers and community, and resource efficiency.
- For the purpose of this disclosure, responsible sourcing standards may include industry programs, guidelines, and criteria that address environmental and/or social best practices for containers and packaging products or their constituent materials (e.g. glass, metal, and plastics).
  - A registrant may choose to align with multiple programs for a given product to capture both environmental and social best practices for that product.

.59 The percentage is calculated as the cost of non-wood-based raw materials that are sourced consistent with responsible sourcing standards, divided by the total cost of non-wood-based raw materials.

.60 Responsible sourcing standards for non-wood-based materials include, but are not limited to, the following:

- Aluminum Stewardship Initiative,<sup>23</sup>
- BES 6001.<sup>24</sup>

.61 The registrant shall indicate the sourcing standards to which its products are conformant.

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<sup>22</sup> Adapted from “The Role of Responsible Sourcing in Creating a Sustainable Construction Supply Chain,” ISBN: 9789052693958. Available online: [http://www.academia.edu/922758/The\\_Role\\_of\\_Responsible\\_Sourcing\\_in\\_Creating\\_a\\_Sustainable\\_Construction\\_Supply-Chain](http://www.academia.edu/922758/The_Role_of_Responsible_Sourcing_in_Creating_a_Sustainable_Construction_Supply-Chain)

<sup>23</sup> The Aluminum Stewardship Initiative standard is currently under development. A draft version is available online at: <http://aluminium-stewardship.org/asi-standard/>. SASB will assess whether to include reference to the ASI standard in SASB’s Provisional standard for the Containers & Packaging industry.

<sup>24</sup> BES 6001 is intended for product-level certification of the responsible sourcing of construction materials. While SASB recognizes that containers and packaging products are different from construction materials, overlap exists in the sourcing of key raw materials (e.g. wood/paper, glass, metals, and plastics). For the purpose of this disclosure, alignment with BES 6001 Sections 3.2 and 3.3 shall constitute alignment with a responsible sourcing standard for containers and packaging raw materials.

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**SUSTAINABILITY ACCOUNTING STANDARDS BOARD®**

75 Broadway, Suite 202  
San Francisco, CA 94111  
415.830.9220  
info@sasb.org

[www.sasb.org](http://www.sasb.org)