SUSTAINABILITY ACCOUNTING STANDARD
NON-RENEWABLE RESOURCES SECTOR

CONSTRUCTION MATERIALS
Sustainability Accounting Standard

Sustainable Industry Classification System™ (SICS™) #NR0401

Prepared by the
Sustainability Accounting Standards Board®

June 2014
Provisional Standard

CONSTRUCTION MATERIALS

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 non-profit organization. Through 2016, SASB is developing standards for more than 80 industries in 10 sectors.

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INTRODUCTION

Purpose & Structure

This document contains the SASB Sustainability Accounting Standard (SASB Standard) for Construction Materials.

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

Construction materials companies have global operations and produce construction materials for sale to construction firms or wholesale distributors. These primarily include cement and aggregates, but also glass, plastic materials, insulation, bricks, and roofing material. Materials producers operate their own quarries, mining crushed stone or sand and gravel. They may also purchase raw materials from the mining and petroleum industries.

Note: Companies producing wood-building products are included the Forestry and Paper industry under the Sustainable Industry Classification System (SICS) and are not included in the Construction Materials standard.

Guidance for Disclosure of Material Sustainability Topics in SEC filings

1. Industry-Level Material Sustainability Topics

For the Construction Materials industry, SASB has identified the following material sustainability topics:

- **Greenhouse Gas Emissions**
- **Air Quality**
- **Energy Management**
- **Water Management**
- **Waste Management**
- **Biodiversity Impacts**
- **Workforce Health, Safety, and Well-Being**
- **Product Innovation**
- **Pricing Integrity & Payments Transparency**

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".[1,2]

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."[2]

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."[2]

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.

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[1] TSC Industries v. Northway, Inc., 426 U.S. 438 (1976).

[2] C.F.R. 229.303(Item 303)(a)(3)(ii).

- 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.

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."**[3]

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. Specifically 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 targeting discharge of materials into the environment or 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/.

[3] 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 material sustainability topics in the Construction Materials 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[4] —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 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),[5] 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.

[4] 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."

[5] 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)[6]
- 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 such 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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[6] See US GAAP consolidation rules (Section 810).

Where relevant, SASB recommends specific activity metrics that – at a minimum – should accompany SASB accounting metric disclosures.

ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE
Production by major product line[7]	Quantitative	Metric tons (t)	NR0401-A

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 like 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.

[7] Note to **NR0401-A** – Determination of major product line (e.g., cement and aggregates, composites, roofing materials, fiberglass, brick, and tile, etc.) should be based on revenue generation, and may include a category of “other” construction materials products that combines multiple smaller revenue streams

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 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.

Table 1. Material Sustainability Topics & Accounting Metrics

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	CODE
Greenhouse Gas Emissions	Gross global Scope 1 emissions, percentage covered under a regulatory program	Quantitative	Metric tons CO_2-e, Percentage (%)	NR0401-01
	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	NR0401-02
Air Quality	Air emissions for the following pollutants: NO_x (excluding N_2O), SO_x, particulate matter (PM), dioxins/furans, volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and heavy metals	Quantitative	Metric tons (t)	NR0401-03
Energy Management	Total energy consumed, percentage from: (1) purchased electricity, (2) alternative sources, (3) renewable sources	Quantitative	Gigajoules (GJ), Percentage (%)	NR0401-04
Water Management	Total fresh water withdrawn, percentage recycled, percentage in regions with High or Extremely High Baseline Water Stress	Quantitative	Cubic meters (m^3), Percentage (%)	NR0401-05
Waste Management	Amount of waste from operations, percentage hazardous, percentage recycled	Quantitative	Metric tons (t), Percentage (%)	NR0401-06
Biodiversity Impacts	Description of environmental management policies and practices for active sites	Discussion and Analysis	n/a	NR0401-07
	Terrestrial acreage disturbed, percentage of impacted area restored	Quantitative	Acres, Percentage (%)	NR0401-08
Workforce Health, Safety, and Well-Being	(1) Total Recordable Injury Rate (TRIR) and (2) Near Miss Frequency Rate for (a) full-time employees and (b) contract employees	Quantitative	Rate	NR0401-09
	Number of reported cases of silicosis[8]	Quantitative	Number	NR0401-10

[8] Note to **NR0401-10** – Disclosure shall include a discussion of efforts to minimize workers' exposure to crystalline silica.

Table 1. Material Sustainability Topics & Accounting Metrics (cont.)

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	CODE
Product Innovation	Percentage of products that can be used for credits in sustainable building design and construction certifications	Quantitative	Percentage (%) by annual sales revenue	NR0401-11
	Total addressable market and share of market for products that reduce energy, water, and/or material impacts during usage and/or production	Quantitative	U.S. Dollars ($), Percentage (%)	NR0401-12
Pricing Integrity & Transparency	Amount of legal and regulatory fines and settlements associated with cartel activities, price fixing, and anti-trust activities[9]	Quantitative	U.S. Dollars ($)	NR0401-13

[9] Note to **NR0401-13** – Disclosure shall include a description of fines and settlements and corrective actions implemented in response to events.

Greenhouse Gas Emissions

Description

The production of construction materials, particularly cement, generates significant direct greenhouse gas (GHG) emissions from on-site fuel combustion and chemical processes. Through gains in efficiency the industry has achieved emissions reductions per ton of materials produced. However, overall production output is growing rapidly, leading to an increase in absolute emissions from cement production. The production of construction materials remains carbon-intensive relative to other industries, exposing the industry to higher operating and capital expenditures from emissions regulations. Strategies to reduce GHG emissions include: energy efficiency, use of alternative and renewable fuels, carbon sequestration, and clinker substitution. Companies that cost-effectively reduce GHG emissions from their operations, 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

NR0401-01. 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 greenhouse gases 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 equivalent (CO_2-e), calculated in accordance with published global warming potential (GWP) factors. To date, the preferred source for global warming potential factors is the Intergovernmental Panel on Climate Change's (IPCC) Fourth Assessment Report (2007).
- 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.

.02 Scope 1 emissions are defined by the World Resources Institute and the World Business Council on Sustainable Development (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 mobiles sources that include, but are not limited to, production facilities, office buildings, and products transportation (marine, road, and 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 2014 (hereafter, the "CDP Guidance").[10]

- The approach detailed in Section 4.23 "Organizational boundary setting for GHG emissions reporting" of Climate Disclosure Standards Board (CDSB) Climate Change Reporting Framework (CCRF)[11].

.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 previously mentioned.

.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.

.09 This accounting metric 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).

[10] "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 2014* (p. 94).

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

NR0401-02. 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

.10 The registrant shall discuss the following where relevant:

- The scope, including if strategies, plans, and/or reduction targets pertain differently to different business units, geographies, or emissions sources.
- If strategies, plans, and/or reduction targets are related to or associated with an emissions disclosure (reporting) or reduction program (e.g., EU ETS, Regional Greenhouse Gas Initiative (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.

.11 For emission reduction targets, the registrant shall disclose:

- The percentage of emissions within the scope of the reduction plan.
- The percentage reduction from the 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 that 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.

.12 Where necessary, the registrant shall discuss any circumstances in which the target base year emissions have been or may be re-calculated retrospectively, or in which the target base year has been reset.

.13 This accounting metric corresponds with:

- CDSB Section 4, "Management Actions"[12]
- CDP questionnaire "CC3. Targets and Initiatives"

[12] 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.

Air Quality

Description

On-site fuel combustion and production processes in the Construction Materials industry emit criteria air pollutants and toxic chemicals, including small quantities of organic compounds and heavy metals. Some emissions of particular concern are those of mercury, nitrogen oxides, sulfur dioxides, and particulate matter. These air emissions can have significant, localized human health and environmental impacts. Financial impacts on companies from air emissions will vary depending on the specific location of operations and the prevailing air emissions regulations, but could include higher operating or capital expenditures and regulatory or legal penalties. Active management of the issue – through technological and process improvements – could allow companies to limit the impact of regulations and benefit from operational efficiencies that could lead to a lower cost structure over time.

Accounting Metrics

NR0401-03. Air emissions for the following pollutants: NO_x (excluding N_2O), SO_x, particulate matter (PM), dioxins/furans, volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and heavy metals

.14 The registrant shall disclose its emissions released to the atmosphere of air pollutants associated with 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, truck fleets, and moveable equipment at production facilities.

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

- Oxides of nitrogen (including NO and NO_2 and excluding N_2O) reported as NO_2
- Oxides of sulfur (SO_2 and SO_3) reported as SO_2
- Particulate matter (PM); reported as the sum of PM_{10} and $PM_{2.5}$, 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
- Non-methane 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
- Heavy metals emissions include: Lead (Pb), mercury (Hg), and cadmium (Cd)
- Polycyclic aromatic hydrocarbons (PAHs), at a minimum, include those listed in Table 1 of the European Commission Joint Research Centre's Institute for Reference Materials and Measurements PAH Factsheet.
    - These include compounds frequently monitored by the Scientific Committee for Food (SCF), the European Union (EU), and the U.S. EPA.

.16 This scope does not include CO_2, CH_4, and N_2O, which are disclosed in NR0401-01, as Scope 1 GHG emissions.

.17 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 NR0401-01.

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

Energy Management

Description

Despite gains in energy efficiency in recent years, the production of construction materials requires vast quantities of energy, sourced primarily from direct combustion of fossil fuels and the electric grid. Energy-intense production has implications for climate change, and electricity purchases from the grid create indirect impacts on the climate through the industry's Scope 2 emissions. Construction materials companies also use alternative fuels for their kilns, such as scrap tires and waste oil—often waste generated by other industries. If properly managed, these can lower energy costs and GHG emissions. However, there could be potentially negative impacts, such as releases of harmful air pollutants that companies need to minimize in order to obtain net benefits from using such fuels. Decisions about use of alternative fuels, renewable energy, and on-site generation of electricity (versus purchases from the grid) can play an important role in influencing both the costs and reliability of energy supply. Affordable, easily accessible, and reliable energy is essential for competitive advantage in this industry, with purchased fuels and electricity accounting for a significant proportion of total production costs. The way in which a construction materials company manages its overall energy efficiency, its reliance on different types of energy and associated sustainability risks, and its ability to access alternative sources of energy can influence its profitability.

Accounting Metrics

NR0401-04. Total energy consumed, percentage from: (1) purchased electricity, (2) alternative sources, (3) renewable sources

.19 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.

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

.21 The registrant shall disclose purchased grid electricity consumption as a percentage of its total energy consumption.

.22 The registrant shall disclose its consumption of energy from alternative sources as a percentage of its total energy consumption, in terms of its energy content.

- Alternative sources of energy include: used tires, spent solvents and waste oils, processed municipal solid waste, household wastes, agricultural wastes such as rice, peanut shells and coffee husks, and animal meal, and sewage sludge.

.23 The registrant shall disclose renewable energy consumption as a percentage of its total energy consumption.

- The scope of renewable energy includes the renewable energy the registrant directly produces, energy purchased 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 all renewable energy consumed as electricity in this manner, RECs must be retired on behalf of the registrant to be claimed as renewable energy as part of this disclosure.
  - For any renewable electricity generated on-site, 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.[13]

.24 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 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.

.25 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).

[13] 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.

Water Management

Description

Despite reductions in water intensity over the past several years, the industry requires substantial volumes of water for the production process, presenting operational risks. Risks are likely to be higher in regions of water scarcity, due to potential water availability constraints and price volatility. Companies that are unable to secure a stable water supply could face production disruptions, while rising water prices could directly increase production costs. Consequently, the adoption of technologies and processes that reduce water consumption could lower operating risks and costs for companies and create a competitive advantage. This could minimize the impact of regulations, water supply shortages, and community-related disruptions on company operations.

Accounting Metrics

NR0401-05. Total fresh water withdrawn, percentage recycled, percentage in regions with High or Extremely High Baseline Water Stress

.26 The registrant shall disclose the amount of water (in cubic meters) that was withdrawn from freshwater 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 total dissolved solids (TDS) concentration of less than 1000 mg/l per the Water Quality Association definition.

.27 Water obtained from a water utility can be assumed to meet the definition of freshwater.[14]

.28 The registrant shall disclose the percentage of water recycled as the volume (in cubic meters) recycled divided by the volume of water withdrawn.

- 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 This accounting metric corresponds to section W5. Water Accounting of the CDP's 2014 Water Information Request.

[14] http://water.epa.gov/drink/contaminants/secondarystandards.cfm

Waste Management

Description

Recycling rates in construction materials production are high. However, wastes from production processes, pollution control devices, and from hazardous waste management activities present a regulatory risk and can raise operating costs. Cement kiln dust (CKD) – consisting of fine-grained, solid, highly alkaline waste removed from cement kiln exhaust gas by air pollution control devices – is the most significant waste category in the industry. In the U.S., CKD is currently exempted from regulations governing hazardous wastes. However, the EPA is currently working to establish rules governing appropriate handling of CKD. Regulatory risk remains from evolving environmental laws, including those at a state level and for other waste streams. Companies that reduce waste streams—hazardous waste streams in particular—and recycle by-products, could therefore lower regulatory and litigation risks and costs.

Accounting Metrics

NR0401-06. Amount of waste from operations, percentage hazardous, percentage recycled

.31 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 which is discarded or is released to the environment.

- The scope includes slags, dusts, sludges, used oil, and other solid wastes that meet the above definition.
- The scope excludes gaseous wastes.

.32 The percentage hazardous shall be calculated as the weight of 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) divided by the total weight of waste material.

- Hazardous wastes include those that display the following characteristics: ignitability, corrosivity, reactivity, or toxicity.

.33 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:

- 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 include 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 which 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.

Biodiversity Impacts

Description

Construction materials companies often operate their own quarries close to processing facilities. Quarrying requires the removal of vegetation and topsoil. It also requires the blasting and crushing of underlying stone deposits. The process can lead to permanent alterations of the landscape, with significant impacts on biodiversity. The environmental characteristics of the land where quarrying takes place could increase extraction costs, due to increasing awareness and protection of ecosystems. Companies could also face regulatory or reputational barriers to accessing sites in ecologically sensitive areas. This may include new protection status afforded to areas where reserves are located. Ongoing quarrying operations might result in the violation of laws protecting endangered species. Companies that have an effective environmental management plan for different stages of the project lifecycle—including restoration during site decommissioning—could minimize their compliance costs and legal liabilities. These companies could face less community resistance in quarrying at new sites and avoid difficulties in obtaining permits and delays in project completion.

Accounting Metrics

NR0401-07. Description of environmental management policies and practices for active sites

.34 The registrant shall provide a brief description of its environmental management plan(s) implemented at active sites, including where relevant:

- Lifecycle stages to which the plan(s) apply, such as: pre-bid (when the registrant is considering acquisition of a site), during exploration and appraisal, site development, production, and during closure, decommissioning, and restoration.
- The topics addressed by the plan(s), such as: ecological and biodiversity impacts, waste generation, noise impacts, emissions to air, discharges to water, natural resource consumption, and hazardous chemical usage.
- The underlying references for its plan(s), including whether they are codes, guidelines, standards, or regulations; whether they were developed by the registrant, an industry organization, a third-party organization (e.g., a non-governmental organization), a governmental agency, or some combination of these groups.

.35 Where applicable and relevant, the registrant shall describe specific policies and practices that apply to areas with protected conservation status and/or areas of critical habitat, which are defined by the International Finance Corporation (IFC) as:

- Areas with high biodiversity value, including (i) habitat of significant importance to Critically Endangered and/or Endangered species; (ii) habitat of significant importance to endemic and/or restricted-range species; (iii) habitat supporting globally significant concentrations of migratory species and/or congregatory species; (iv) highly threatened and/or unique ecosystems; and/or (v) areas associated with key evolutionary processes.[15]

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[15] International Finance Corporation (IFC), Performance Standard 6, *Biodiversity Conservation and Sustainable Management of Living Natural Resources*, January 1, 2012.

.36 If the management policies and practices do not apply to all of the registrant's sites or operations, it shall indicate the percentage of sites to which they were applied.

.37 Where environmental management policies and practices differ significantly by resource or mineral (e.g., silica as compared to gypsum), then the registrant shall describe differences for each resource.

.38 The registrant shall disclose the degree to which its policies and practices are aligned with the International Finance Corporation's (IFC) Performance Standards on Environmental and Social Sustainability, January 1, 2012, including specifically:

- Performance Standard 1 – Assessment and Management of Environmental and Social Risks and Impacts.
- Performance Standard 3 – Resource Efficiency and Pollution Prevention.
- Performance Standard 4 – Community Health, Safety, and Security.
- Performance Standard 6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources.

.39 Additional relevant references may include:

- "Environmental, Health and Safety Guidelines for Mining," International Finance Corporation, December 10, 2007.
- "Towards Sustainable Decommissioning and Closure of Oil Fields and Mines: A Toolkit to Assist Government Agencies," DRAFT Version 2.0, November 2009, World Bank Multistakeholder Initiative.

NR0401-08. Terrestrial acreage disturbed, percentage of impacted area restored

.40 The registrant shall disclose the total acreage of disturbed land, where the scope includes land in in the exploration, development and production, or quarry/mine closure, and post-closure project phases.

- This disclosure shall be a cumulative total of all currently active sites and sites being restored; it is not limited to land newly disturbed during the fiscal year.
- Land shall no longer be considered disturbed once post-closure restoration and remediation efforts are substantially complete (even if monitoring is ongoing).

.41 The registrant shall disclose the percentage of disturbed acreage that was restored during the fiscal year, where, at a minimum, restoration meets the Society for Ecological Restoration definition: "the process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed."

- Restoration may be further defined by local, state, or national laws, industry standards, or the registrant's own guidelines.
- The registrant shall disclose the definition of restoration and accompanying practices it follows.

Workforce Health, Safety, and Well-Being

Description

Employees and contractors of construction materials companies face significant health and safety risks. These risks are due in large part to exposure to heavy equipment and dangerous quarrying operations. In addition to acute impacts, workers can develop chronic health conditions from silica dust inhalation, among other factors. The industry has relatively high fatality rates, signifying the risky work environment, and requires a strong safety culture and health and safety policies. Worker injuries, illnesses, and fatalities can lead to regulatory penalties, negative publicity, low worker morale and productivity, and increased healthcare and compensation costs.

Accounting Metrics

NR0401-09. (1) Total Recordable Injury Rate (TRIR) and (2) Near Miss Frequency 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), 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.

.43 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.

.44 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.

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

- Direct, full time employees
- Contract employees

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

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

NR0401-10. Number of reported cases of silicosis

.48 The registrant shall disclose the number of reported cases of silicosis (exposure to crystalline silica) affecting the registrant's current workforce or past employees.

- The scope of disclosure includes cases of chronic, acute, or accelerated silicosis.

Note to NR0401-10

.49 The registrant shall disclose its efforts to minimize workers' exposure to crystalline silica, such as respirator programs, engineering controls, or safety training programs.

.50 The registrant shall describe its processes (e.g., rules and their enforcement), procedures, trainings, and technologies used to minimize its workforce's exposure to crystalline silica.

- This may include systems for maintaining compliance with OSHA Standards for General Industry (29 CFR 1910), including sections on ventilation (1910.94) and air contaminants (1910.1000), and focusing on mineral dusts within the OSHA standards (Table Z-3).

.51 The registrant may choose to discuss exposure standards it follows such as:

- The U.S. Mine Safety and Health Administration (MSHA) and OSHA permissible exposure limit (PEL) for respirable crystalline silica (quartz), which is 100 µg/m^3 as an 8-hour time-weighted average.

- The National Institute for Occupational Safety and Health (NIOSH) recommended exposure limit (REL) of 0.05 µg/m^3 as a 10-hour time-weighted average.

Product Innovation

Description

Innovations in building materials are a key component in the growth of sustainable construction. Consumer and regulatory trends are largely driving adoption of sustainable building materials and processes that are more resource efficient and lower health impacts of buildings throughout their lifecycle. This is creating new business drivers for construction materials companies, with an opportunity to increase revenues. Furthermore, some new products require less energy to produce, or use largely recycled inputs, reducing production costs. Sustainable construction materials, therefore, are likely to drive a company's long-term growth and competitiveness.

Accounting Metrics

NR0401-11. Percentage of products that can be used for credits in sustainable building design and construction certifications

.52 The registrant shall calculate the percentage as the revenue during the fiscal year from products that can be used for credits in recognized sustainable design and construction certifications divided by the total revenue from building products.

- The scope of products excludes raw or intermediate materials that would require additional manufacturing before being incorporated into a building; the registrant shall exclude these products from the numerator and denominator of its calculations.

.53 Recognized sustainable building design and construction certifications and guidelines include: BREEAM® (BRE Global), Green Globes® (Green Building Initiative), LEED® (U.S. Green Building Council), and ICC-700 National Green Building Standard® (National Association of Home Builders).[16]

- If the registrant's products can be used to obtain credits in certifications other than those described above, it shall provide the name of the certification and evidence of why it is equal to or more rigorous than those standards listed here.

.54 The registrant may choose to disclose and discuss which specific products contribute to sustainable building practices and future plans to address market demand for these types of products.

NR0401-12. Total addressable market and share of market for products that reduce energy, water, and/or material impacts during usage and/or production

.55 The registrant shall provide an estimation of the total addressable market for products that show reduced environmental impacts at various lifecycle stages, including during material sourcing, manufacturing, and product usage (hereafter, "reduced environmental impact 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).

[16] SASB is not affiliated with any of the standards or organization listed, and listing should not be taken as an endorsement of any standard or organization. Listing of standards is not meant to imply that standards are identical in scope, underlying requirements, or criteria, or that standards are interchangeable.

.56 The scope of products includes those:

- With product attributes that reduce energy consumption or increase energy efficiency for users, such as by providing improved insulation as compared to typical products.
- With process or product attributes that reduce the amount water required in manufacturing, during product assembly, or product usage.
- That use secondary or recycled materials in place of virgin materials such that upstream impacts are reduced.
- Made with design innovations that lower carbon emissions during manufacturing, such as use of renewable fuels, energy efficiency improvements, the use of materials requiring less processing, etc.

.57 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.

.58 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.

.59 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 (i.e., the market size in 10 years).

- The registrant may disclose its target 3-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.

Pricing Integrity & Transparency

Description

The construction materials market has been subject to instances of anti-competitive behavior, such as maintaining artificially high prices through cartel activity. Most countries have well-established fair business practice laws in place. Business activity leading to price fixing or other manipulation of prices can lead to material legal fines or business disruption. Managing anti-competitive behavior within an organization can effectively mitigate regulatory risks, including those related to investigations of mergers and acquisitions or compliance costs.

Accounting Metrics

NR0401-13. Amount of legal and regulatory fines and settlements associated with cartel activities, price fixing, and anti-trust activities

.60 The registrant shall disclose the amount (excluding legal fees) of all fines or settlements associated with incidents relating to anti-competitive behavior, including, but not limited to, cartel activities, price fixing, and anti-trust activities.

.61 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 NR0401-13

.62 The registrant shall briefly describe the nature (e.g., guilty plea, deferred agreement, or non-prosecution agreement) and context (e.g., collusion, price fixing, anti-trust, etc.) of fines and settlements.

.63 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.

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