Sustainability Accounting Standards Board Reporting

How it Intersects with Green Chemistry

November 24, 2017
What is the GC3?

- A cross-sectoral, full value chain business membership organization
- A convener of collaborations to advance green chemistry innovation & practice
- An advocate for government policy & funding that advances green chemistry R&D and innovation

**Mission:** To make green chemistry standard practice – **Mainstream** - in industry, for innovation, public health, and environmental protection

Started in 2005
Over 100 Members, Including:

Johnson & Johnson
BEHR
bioamber
Johnson
A Family Company
BASF
The Chemical Company
Chemours
Beiersdorf
AMYRIS
Unilever
BEST BUY
P&G
STAPLES
HP
Unilever
VALSPAR
Target
Walmart
Nike
CVS Health
Dow
L’Oreal
Timberland
EASTMAN
Steelcase
THE HOME DEPOT
GC3
Today’s Speakers

Rich Liroff
Executive Director, Investor Environmental Health Network (IEHN)

Henrik Cotran
Sector Analyst, Sustainability Accounting Standards Board (SASB)
Ground Rules

• Due to the number of participants in the webinar, all lines will be muted.

• If you have a question or comment, please type it in the “Questions” box located in the control panel.

• Questions will be answered at the end of the presentation.
The Sustainability Accounting Standards Board

SASB Standards and Green Chemistry Reporting

Henrik Cotran
Sector Analyst

November 14, 2017
The Sustainability Accounting Standards Board (SASB)

Discussion Topics

1. Growing Investor Interest in Sustainability
2. SASB Overview
3. SASB’s Standards Development Process
4. SASB and Green Chemistry
Investor Focus on Sustainability
A rapidly increasing share of institutional assets are managed with ESG issues in mind

PRI Signatory Growth

- PRI signatories represent ~50% of total global assets under management
- 90% of the world’s top 100 asset managers, including Blackrock, Vanguard, SSGA, Fidelity Investments, Capital Investment Group, and PIMCO
- 359 asset owners, representing USD 16.3 trillion in assets

All PRI signatories commit to*:

- Incorporate ESG issues into investment analysis and decision-making processes
- Be active owners and incorporate ESG issues into their ownership policies and practices
- Seek appropriate disclosure on ESG issues by the entities in which they invest

*Reflects only three of six PRI Principles, to which all signatories commit.
Pain Points for Data Users
Investors are dissatisfied with the quality of ESG disclosure

**Investor Needs**
Investor confidence in the quality of the ESG information received from issuers

![29%](image)

**Issuer Reporting**
Issuer confidence in the quality of the ESG information reported

![100%](image)


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**High degree of investor dissatisfaction with the current state of ESG disclosure**

| Disclosure of ESG-related risk/opportunity that could affect business models | 93% |
| How sustainability risks/opportunities are identified and quantified in financial terms | 82% |
| Ease of comparing peer companies based on ESG data disclosed | 92% |
| Key performance indicators related to each identified material issue | 68% |
| Use of standards for disclosure of ESG data to investors (50% want industry-specific) | 71% |

Current State of Disclosure on SASB Topics
Opportunity to transform SEC disclosure from boilerplate to performance-based

Source: SASB analysis performed between May and August 2016 using the latest annual SEC Filings (i.e. Form 10-Ks and 20-Fs) for the top companies, by revenue, per SICS industry (maximum of 10 companies).
SASB Overview
Industry-specific standards to guide disclosure of material ESG factors to investors

The SASB creates industry-specific sustainability accounting standards.

SASB standards:

- Help companies disclose financially material, decision-useful ESG information to investors in a cost-effective way
- Reduce information asymmetry
- Enable performance benchmarking across companies
- Facilitate more accurate pricing of risk

Facts about SASB

- Independent standards setter led by nine-member standards board
- Follows rigorous, evidence-based, market-informed process
- Maintains industry-specific standards for 79 industries in 11 sectors
- Designed for use in public, annual financial reports targeted to investors
- Guided by a strong conceptual framework grounded in financial materiality
- Operated under the auspices of the SASB Foundation, a non-profit organization
The SASB Foundation Board
Fiduciary duty to oversee the funding and operations of the SASB and staff

Michael R. Bloomberg – Chair
Philanthropist, Founder of Bloomberg LP, and the 108th Mayor of New York City

Mary Schapiro – Co Vice Chair
Promontory Advisory Board Vice Chair
Former Chairman – SEC

Robert K. Steel – Co Vice Chair
Partner & CEO
Perella Weinberg Partners

Alan Beller
Senior Counsel
Cleary Gottlieb Steen & Hamilton

Audrey Choi
CEO – Institute for Sustainable Investing, Morgan Stanley

Jack Ehnes
CEO – CalSTRS

Steven O. Gunders, CPA, MBA
Partner
Deloitte & Touche LLP (Retired)

Robert H. Herz
Former Chairman – FASB

Shawn Lytle
President
Delaware Management Holdings, Inc.

Jim McIntire
Former Treasurer, State of Washington

Clara Miller
President – The F.B. Heron Foundation

Catherine Odelbo, MBA
Executive Vice President Corporate Strategy and Partnerships – Morningstar Inc.

Kevin Parker
CEO – SICM

Curtis Ravenel
Global Head, Sustainable Business and Finance – Bloomberg LP

Laura Tyson, PhD
Director, Institute for Business and Social Impact
Berkeley Haas School of Business

Elisse Walter, JD
Former Chairman – SEC

Matthew Welch
President,
SASB (Ex-officio)

Jay Willoughby
CIO, TIFF

Chuck Zegar
Philanthropist, Co-Founder of Bloomberg LP
The SASB Lens on Financial Materiality
Standards targeted to the needs of users for financially relevant ESG information

Identify ESG factors reasonably likely to affect the *financial condition or operating performance* of companies within an industry

- Are acknowledged by the EU as a framework for use to provide information pursuant to *Directive 2014/95/EU* on non-financial reporting.
- Can be used to guide disclosure of material information to investors in filings with the US SEC in Forms 10-K, 20-F and 40-F.
Complementary Efforts
Target sustainability information to specific audiences for specific purposes

Relevant Information
All environmental, social, and governance topics of interest

Material Information
Sustainability factors likely to affect the financial condition or operating performance of a company

Alignment is key

All Stakeholders

Investors

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SASB’s Standards Development Process
Evaluation of the Materiality of Sustainability Issues in Each Industry

SASB’s research process starts with a broad universe of sustainability issues

Environment
- GHG emissions
- Air quality
- Energy management
- Water and wastewater management
- Waste and hazardous materials management
- Ecological impacts
- Climate impacts

Social capital
- Community relations
- Human rights
- Access and affordability
- Customer welfare
- Data privacy & security
- Selling practices & product labelling

Human capital
- Labor relations
- Labor practices & compensation
- Employee health, safety, and wellbeing
- Employee recruitment, engagement & diversity

Business model and innovation
- Product design & lifecycle management
- Product packaging & distribution
- Product quality and safety
- Supply chain management
- Materials sourcing
- Investment, credit, & underwriting ESG risks
- Rate structure & pricing
- Business model resilience

Leadership and governance
- Business ethics
- Competitive behavior
- Management of legal & regulatory environment
- Critical incident risk management
- Systemic risk management
Rigorous Process Drives SASB Standards
Standards for each industry are rooted in evidence and shaped by market input

- Industry Research
  - Evidence of Financial Impacts
- Market Input
  - Industry Working Groups and Issuer, Investor Consultation
- Evidence Vetting
  - Standards Board Review
- Public Comment
  - (Exposure Drafts) 90 days
- Revisions & the SASB Approval

SASB Standard
- Average of 5 topics and 13 metrics
Balanced Participation
SASB’s standards-setting process informed by industry expertise

Industry Working Groups & Public Comments

Consultation Participation

Anticipated Standing Sector Advisory Group Input

2012-2016
Provisional Phase

2016-2017
Consultative Phase

2018-onward
Standards Maintenance

>2,800 IWG PARTICIPANTS

141 Companies
159 INDUSTRY CONSULTATIONS

19 Industry Associations
REPRESENTING HUNDREDS OF COMPANIES

12-15 members
MEMBERS REPRESENTING ISSUERS & INVESTORS

11 Standing Sector Advisory Groups

172 PUBLIC COMMENT LETTERS

38 Institutional Investors
271 INDUSTRY CONSULTATIONS

31% Corporate Professionals
31% Investors
37% Public Interest & Intermediaries
Expected Value Drivers
SASB’s process identifies disclosure topics with evidence of impact on financial condition, operating performance or risk

Financial Impact

- REVENUE
  - Demand for Core Products and Services
  - Intangible Assets and Long-Term Growth
- COST
  - Operational Efficiency/Cost Structure
- ASSETS & LIABILITIES
  - Valuation of Core Assets and Liabilities
- COST OF CAPITAL
  - Governance, License to Operate and Risk

Types of Financial Drivers

Disclosure Topics Examples

- Drug safety and side effects
- Diverse workforce in technology
- Energy-efficient chemicals production
- Stranded coal assets
- Operational safety of gas pipelines
Robust Standards Designed to Provide Decision-Useful Information

SASB standards contain industry-specific disclosure topics, metrics, and guidance.

**Table 1. Material Sustainability Topics & Accounting Metrics**

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>ACCOUNTING METRIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhouse Gas Emissions</td>
<td>Gross global Scope 1 emissions, percentage covered under a regulatory program, percentage by hydrocarbon resource</td>
</tr>
<tr>
<td>Air Quality</td>
<td>Air emissions for the following pollutants: NOx (excluding N2O), SO2, volatile organic compounds (VOCs), and particulate matter (PM)</td>
</tr>
<tr>
<td>Water Management</td>
<td>Total fresh water withdrawn, percentage recycled, percentage in regions with High or Extremely High Baseline Water Stress</td>
</tr>
<tr>
<td>Water Quality</td>
<td>Volume of produced water and flowback generated; percentage (1) discharged, (2) injected, (3) recycled; hydrocarbon content in discharged water</td>
</tr>
</tbody>
</table>

**Reserves Valuation & Capital Expenditures**

**Description**

Estimates suggest that E&P companies are unlikely to be able to extract a significant proportion of their probable oil and gas reserves if GHG emissions are to be controlled to limit global temperature increases to 2 degrees Celsius. Companies with more carbon-intensive reserves and production and higher exposure to the risks of climate change may face greater risks. Regulatory limits on GHG emissions, together with improved competitiveness of alternative energy technologies, could lower or reduce the growth in global demand, and therefore reduce the demand for oil and gas products. Extraction costs could increase with regulations that put a price on GHG emissions, which could affect the net present value of oil and gas reserves. Regulatory actions that are more stringent or those focusing on industries with high emissions, could impair asset values substantially over time. Stewardship of capital resources and production decisions that take into account risks related to climate change mitigation actions can help prevent current asset impairment and improve the company's and enterprisewide creditworthiness.

**Accounting Metrics**

NR0101-22. Sensitivity of hydrocarbon reserve levels to future price projection scenarios and a price on carbon emissions

.122 The registrant shall conduct an analysis of its reserves to determine how several future price scenarios affect its determination of whether the reserves are proved or probable.
Ongoing Standards Development Process
SASB standards will be maintained to evolve along with the markets they serve

3 YEAR PROCESS

- Research
- Consultation
- Technical Agenda
- Exposure Draft
- Public Comment Period
- Updates to Standards

The SASB Oversight and Decision-Making

- Quarterly meetings of the Sustainability Accounting Standards Board
- Board meetings are public. Board meeting information is available on https://www.sasb.org/sectors/public-meetings-sasb/
- General comment letters can be sent to comments@sasb.org; comments on standards can be made through https://www.sasb.org/standards/exposure-drafts/
SASB and Green Chemistry
Chemical Use Appears in Multiple SASB Industries

Important issue across the value chain

Industries

- Chemicals
- Containers & Packaging
- Electrical Equipment
- EMS ODM
- Technology Hardware
- Oil & Gas Services*
- Building Products
- Toys & Sporting Goods
- Apparel & Accessories
- Household Products
- Appliances*
- Multiline Retailers

*industries with proposed changes to chemicals metrics

Disclosure Topics

- Environmental Stewardship of Chemicals
- Product Lifecycle Management
- Management of Chemicals in Products
- Chemical & Safety Hazards of Products
- Product Environmental, Health, and Safety Performance
- Chemicals Management
- Product Sourcing, Packaging, and Marketing
Industry-specific Metrics

Quantitative and qualitative useful to multiple stakeholders

Qualitative

Discussion of strategy to (a) manage chemicals of concern and (b) develop alternatives with reduced human and/or environmental impact.

Description of processes to maintain compliance with restricted substances regulations.

Potential Financial Impact

- Revenue
- Brand value
- R&D
- Costs

Quantitative

Percentage of applicable products meeting volatile organic compound (VOC) emissions and content standards.

Percentage of products by revenue that contain IEC 62474 declarable substances.

Potential Financial Impact

- Revenue
- Brand value
- R&D
- Costs

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CFP and SASB—Exploring the Linkages

Richard Liroff
Investor Environmental Health Network
Investor Perspective on Chemicals Management

• Risks
  • Regulation
  • Reputation
  • Litigation

• Opportunities
  • First Mover Advantage
  • Drive Innovation and Grow Market Share
LUMBER LIQUIDATORS STOCK HIT

June 2013: First blog about excessive formaldehyde levels in products
July 2014: NGO tests show high formaldehyde levels
March 2015: 60 minutes TV report
May 2015: CEO resigns

Market Winners and Losers
Reputational Hit

SIGG™
HOW INVESTORS USE CFP SURVEY DATA

• Insight into chemical management and supply chain management
• Proxy for good corporate governance practice
• Engagement – those that do not address the issue can find themselves a target
• Investment decision ideas
CFP Signatories

- Enables benchmarking
- Establishes common language
- Identifies leaders

Benefits to Signatories

$2.3 trillion in assets under management

$600 billion in purchasing power
Annual Survey
20 Questions - 100 pts

a project of Clean Production Action
Figure ES-1. All CFP Pillars: Small and Large Companies Selling Formulated Products (average percent of points)

<table>
<thead>
<tr>
<th>CFP Pillar</th>
<th>Small and Large Companies Selling Formulated Products (average percent points by CFP Pillar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management Strategy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Small – 50%</td>
</tr>
<tr>
<td></td>
<td>Large – 86%</td>
</tr>
<tr>
<td>Chemical Inventory</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Small – 65%</td>
</tr>
<tr>
<td></td>
<td>Large – 82%</td>
</tr>
<tr>
<td>Footprint Measurement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Small – 70%</td>
</tr>
<tr>
<td></td>
<td>Large – 56%</td>
</tr>
<tr>
<td>Disclosure &amp; Verification</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Small – 37%</td>
</tr>
<tr>
<td></td>
<td>Large – 15%</td>
</tr>
</tbody>
</table>

Figure ES-2. All CFP Pillars: Small, Medium, and Large Companies Selling Only Articles (average percent of points) (Revised 1/28/17)

<table>
<thead>
<tr>
<th>CFP Pillar</th>
<th>Small, Medium, and Large Companies Selling Only Articles (percent of points by CFP Pillar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management Strategy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Small – 33%</td>
</tr>
<tr>
<td></td>
<td>Medium – 49%</td>
</tr>
<tr>
<td></td>
<td>Large – 50%</td>
</tr>
<tr>
<td>Chemical Inventory</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Small – 39%</td>
</tr>
<tr>
<td></td>
<td>Medium – 63%</td>
</tr>
<tr>
<td></td>
<td>Large – 76%</td>
</tr>
<tr>
<td>Footprint Measurement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Small – 28%</td>
</tr>
<tr>
<td></td>
<td>Medium – 36%</td>
</tr>
<tr>
<td></td>
<td>Large – 52%</td>
</tr>
<tr>
<td>Disclosure &amp; Verification</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Small – 13%</td>
</tr>
<tr>
<td></td>
<td>Medium – 0%</td>
</tr>
<tr>
<td></td>
<td>Large – 18%</td>
</tr>
<tr>
<td>Average of All Four Pillars</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Small – 29%</td>
</tr>
<tr>
<td></td>
<td>Medium – 40%</td>
</tr>
<tr>
<td></td>
<td>Large – 52%</td>
</tr>
</tbody>
</table>
I6: Methods for assuring conformance with chemicals policy

I6. How does your company assure conformance with your chemicals policy? (5 points)

- Audit program to verify supplier data: 11 companies
- Suppliers required to test parts & provide results: 6 companies
- Suppliers trained on reporting requirement compliance: 9 companies
- Parts, components, or products routinely tested: 10 companies
- None of the above: 8 companies
Aligning SASB and the Chemical Footprint Project

CFP Components
Management Strategy (“M”)
Chemical Inventory (“I”)
Footprint Measurement (“F”)
Public Disclosure and Verification (“D”)

SASB Building Products & Furnishings

- ...may contain harmful substances that have the potential to harm human health, including...
- ...potentially significant regulatory and reputational risk
- Increasing consumer concern...
- building certification standards such as LEED are driving demand... Companies that effectively manage harmful chemicals...may enjoy a competitive advantage over the long term...higher demand, reduced regulatory risk...improved reputation.
Accounting Metrics (Building Products)

• Describe chemical management processes:
  • Hazard-based, risk based, other? (M1, M2)
  • Use RSL? Screening Tools (WHO? IARC? Others?) (I1, I2, F4)
  • Life-cycle stage chemicals management: product design through to marketing? (M3, I3, I4, I5, I6)
  • Prioritize chemicals for reduction/elimination? Incorporate alternatives? Material substitution assessments? Greenscreen or DfE? (F1, M2, F5)
  • Third-party certification? (D4)
  • Timeline and progress? (F1, F2, F3)
Household and Personal Products Industry

• ...growing consumer and regulatory pressure...
• Larger retailers have implemented programs to ban chemicals of concern...
• Companies able to anticipate the changing regulatory landscape and implement stricter processes and testing will have a competitive advantage.
• Early adopters of innovations in green chemistry and the reduction of chemicals of concern may improve profitability...
Accounting Metrics
(Household, Personal Products)

• Percentage of revenue from products containing SVHC Candidate List chemicals, California Candidate Chemicals List (F2, F3)

• Identify *emerging* chemical concerns. Discuss, e.g., parabens, antimicrobials, toluene, PVC, PE microbeads (I2, I3, I4)

• Hazard and risk assessment (F4)

• Product design, labeling, declarations (M3, F1, D1)

• Banned substances lists, material substitution assessments, screening methods (e.g., GreenScreen or CleanGredients) (I1, I2, F4)

• Discuss: chemicals in DTSC Draft Priority Work Plan, Prop 65, Washington State, etc.

• Revenue from products designed with green chemistry principles (citing 12 principles, ACS GCI, EPA Safer Choice, C2C). Possibly F2 and F3 (footprint calculation)
Additional SASB Categories

Apparel, Accessories and Footwear
Toys and Sporting Goods
Multi-line and Specialty Retailers and Distributors
Take-aways

• SASB’s incorporation of the CFP indicators underscore that management of chemicals in products and supply chains is a financially material risk.

• Participation in CFP makes it easier for companies to respond to sector-specific standards incorporating chemical management concerns.

• For more information, visit www.chemicalfootprint.org.
Thank you!

Richard Liroff
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www.iehn.org
Question & Answer

• If you have a question or comment, please type it in the “Questions” box located in the control panel

• Questions will be answered in order as they are received.
13th Annual GC3 Innovators Roundtable
May 8-10, 2018

Hosted by Eastman Chemical Company
MeadowView Conference Resort, Kingsport, Tennessee

Registration will open in January 2018

<table>
<thead>
<tr>
<th>Tues. May 8</th>
<th>Wed. May 9</th>
<th>Thurs. May 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roundtable - half day conference</td>
<td>Roundtable - full day conference</td>
<td>Roundtable - full day conference</td>
</tr>
<tr>
<td>Evening Dinner Reception</td>
<td>Evening Dinner Reception</td>
<td>Evening Dinner Reception</td>
</tr>
</tbody>
</table>
Thanks for joining us!

For more information about the GC3: www.greenchemistryandcommerce.org