



# Sustainability Accounting Standards Board

Industry-Based Standards for Effective Disclosure of Material  
Sustainability Information to Investors

Remarks at the National Academies of Sciences, Engineering, and  
Medicine's Roundtable on Science and Technology for  
Sustainability

Presented by Dr. Jean Rogers

January 31, 2017

# The SASB Mission

Improved sustainability disclosure enhances market efficiency

The mission of SASB is to develop and disseminate sustainability accounting standards that help companies disclose material, decision-useful information to investors in a cost-effective way.

That mission is accomplished through a rigorous, transparent process that includes evidence-based research and broad, balanced stakeholder participation.

## Facts about SASB

- Independent 501(c)(3) non-profit
- Develops & maintains industry-specific standards for 79 industries in 10 sectors
- Intended for use in mandatory SEC filings such as the Form 10-K and 20-F



# The Materiality of Sustainability Issues

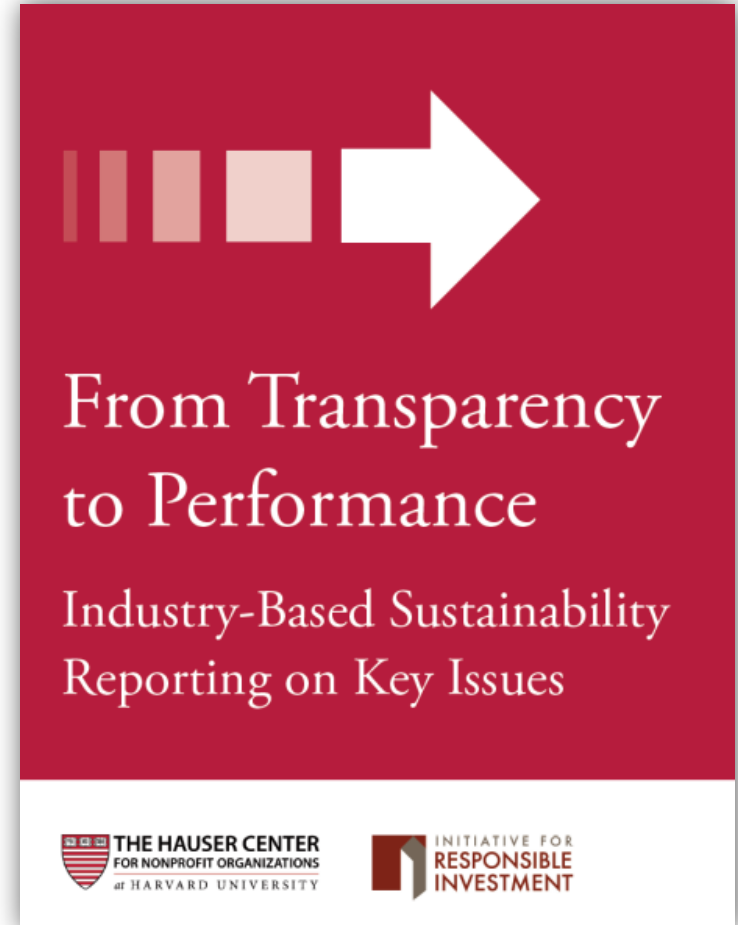
SASB's approach grew out of research done at Harvard University



## From Transparency to Performance

*Industry-Based Sustainability  
Reporting on Key Issues  
July, 2010*

- Steve Lydenberg  
*Domini Social Investment and IRI Fellow, Harvard University*
- Jean Rogers, PhD  
*SASB, formerly Arup and Loeb fellow, Harvard University*
- David Wood, PhD  
*Initiative for Responsible Investment, Harvard University*



# Evaluation of the Materiality of Sustainability Issues in Each Industry

SASB's research and prioritization starts with a broad set of sustainability issues

## Environment

- GHG emissions
- Air quality
- Energy management
- Fuel management
- Water and wastewater management
- Waste and hazardous materials management
- Biodiversity impacts

## Social capital

- Human rights and community relations
- Access and affordability
- Customer welfare
- Data security and customer privacy
- Fair disclosure and labeling
- Fair marketing and advertising

## Human capital

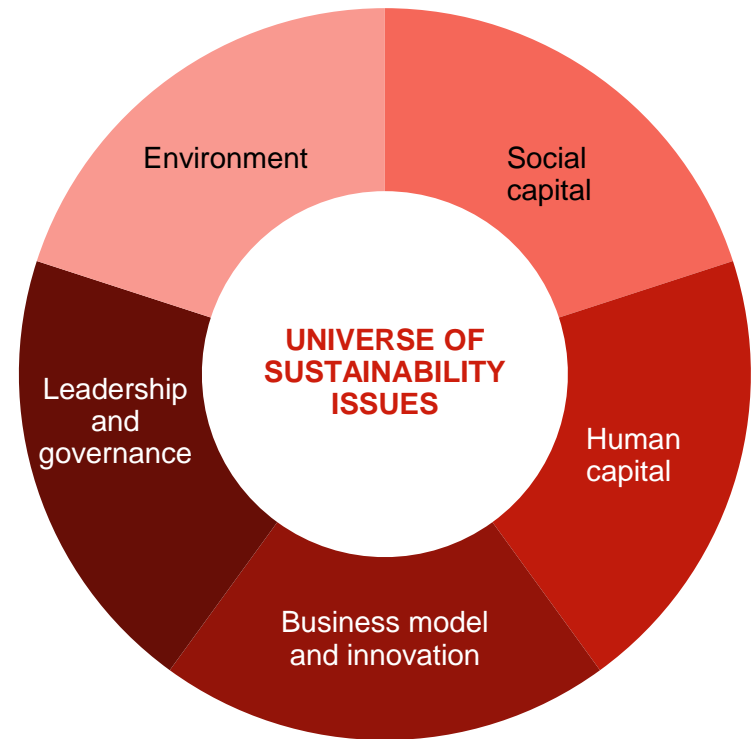
- Labor relations
- Fair labor practices
- Diversity and inclusion
- Employee health, safety, and wellbeing
- Compensation and benefits
- Recruitment, development, and retention

## Business model and innovation

- Lifecycle impacts of products and services
- Environmental and social impacts on assets and operations
- Product packaging
- Product quality and safety

## Leadership and governance

- Systemic risk management
- Accident and safety management
- Business ethics and transparency of payments
- Competitive behavior
- Regulatory capture and political influence
- Materials sourcing
- Supply chain management



# Sustainable Industry Classification System

SICS™ industries are grouped by resource intensity and sustainability impacts

## Health Care

- Biotechnology
- Pharmaceuticals
- Medical Equipment & Supplies
- Health Care Delivery
- Health Care Distributors
- Managed Care



## Technology & Communications

- Electronic Manufacturing Services & Original Design Manufacturing
- Software & IT Services
- Hardware
- Semiconductors
- Telecommunications
- Internet Media & Services



## Renewable Resources & Alternative Energy

- Biofuels
- Solar Energy
- Wind Energy
- Fuel Cells & Industrial Batteries
- Forestry & Paper



## Transportation

- Automobiles
- Auto Parts
- Car Rental & Leasing
- Airlines
- Air Freight & Logistics
- Marine Transportation
- Rail Transportation
- Road Transportation



## Non-Renewable Resources

- Oil & Gas – Exploration & Production
- Oil & Gas – Midstream
- Oil & Gas – Refining & Marketing
- Oil & Gas – Services
- Coal Operations
- Iron & Steel Producers
- Metals & Mining
- Construction Materials



## Infrastructure

- Electric Utilities
- Gas Utilities
- Water Utilities
- Waste Management
- Engineering & Construction Services
- Home Builders
- Real Estate Owners, Developers & Investment Trusts
- Real Estate Services



## Services

- Education
- Professional Services
- Hotels & Lodging
- Casinos & Gaming
- Restaurants
- Leisure Facilities
- Cruise Lines
- Advertising & Marketing
- Media Production & Distribution
- Cable & Satellite



## Resource Transformation

- Chemicals
- Aerospace & Defense
- Electrical & Electronic Equipment
- Industrial Machinery & Goods
- Containers & Packaging



## Financials

- Commercial Banks
- Investment Banking & Brokerage
- Asset Management & Custody Activities
- Consumer Finance
- Mortgage Finance
- Security & Commodity Exchanges
- Insurance



## Consumption

- Agricultural Products
- Meat, Poultry & Dairy
- Processed Foods
- Non-Alcoholic Beverages
- Alcoholic Beverages
- Tobacco
- Household & Personal Products
- Multiline and Specialty Retailers & Distributors
- Food Retailers & Distributors
- Drug Retailers & Convenience Stores
- E-Commerce
- Apparel, Accessories & Footwear
- Building Products & Furnishings
- Appliance Manufacturing
- Toys & Sporting Goods



# SASB Disclosure Topics are in the News Everyday

Sustainability Issues are Business Issues

Innovations

INDUSTRY: AUTOMOBILES TOPIC: FUEL ECONOMY

## Volkswagen close to pleading guilty over emissions scandal

Innovations

INDUSTRY: AUTOMOBILES TOPIC: PRODUCT SAFETY

## U.S. indicts three Takata executives, fines company \$1 billion in air-bag scandal

INDUSTRY: CRUISELINES TOPIC: DISCHARGE MANAGEMENT

ENVIRONMENT

Thu Dec 1, 2016 | 1:12 PM EST

## Carnival Princess to pay record \$40 million for pollution cover-up

INDUSTRY: PROFESSIONAL SERVICES TOPIC: PROFESSIONAL INTEGRITY

## Moody's Reaches \$864 Million Subprime Ratings Settlement

INDUSTRY: INTERNET MEDIA & SERVICES TOPIC: DATA PRIVACY

TECHNOLOGY

## *Data Could Be the Next Tech Hot Button for Regulators*

Business

INDUSTRY: AUTO PARTS TOPIC: SUPPLY CHAIN MANAGEMENT

## Tesla aims to sustain purity of car batteries, but can any company be sure?

INDUSTRY: PROFESSIONAL RESTAURANTS TOPIC: FAIR LABOR PRACTICES

## McDonald's agrees to \$3.75M deal with California workers

INDUSTRY: RESTAURANTS TOPIC: Food Safety

BUSINESS

## Chipotle Customers Haven't Forgotten The Chain's Food Safety Crisis

INDUSTRY: PHARMA TOPIC: AFFORDABILITY & FAIR PRICING

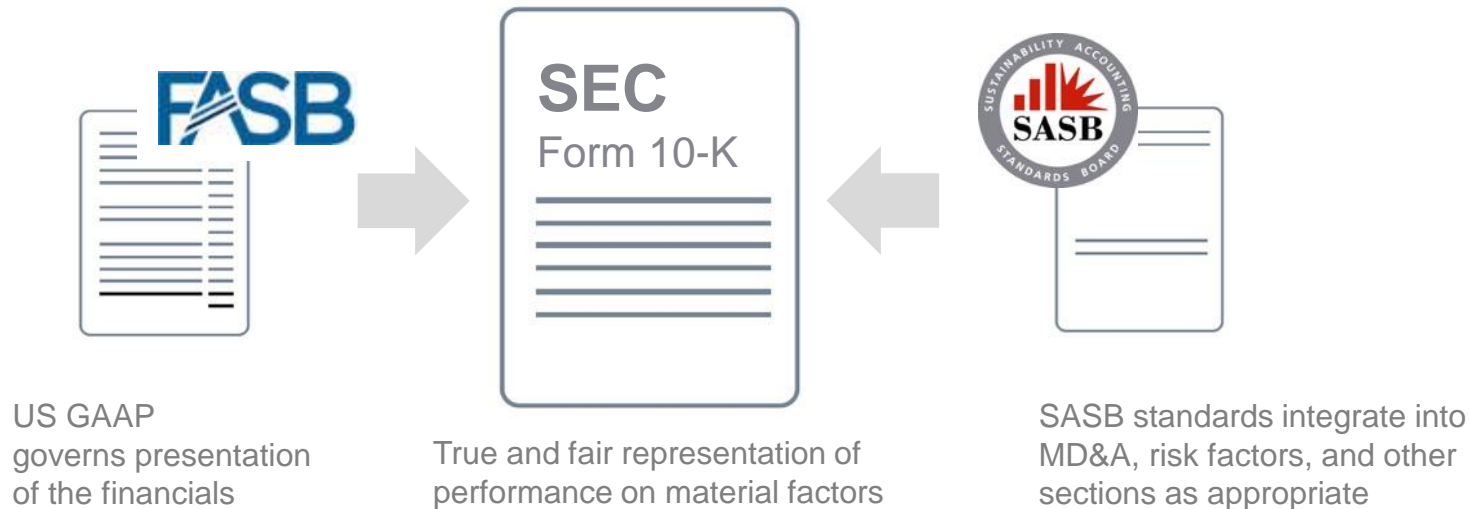
BUSINESS DAY

## *How Valeant Cashed In Twice on Higher Drug Prices*



# Designed for Integration into Mandatory Public Filings

SASB standards enable effective disclosure without additional regulation or reporting mechanisms



*“Material information” is defined by the U.S. Supreme Court as presenting 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 information** made available.*

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

# A Market-Driven Response

SASB addresses needs of all market participants—both investors *and* issuers

## Issuers

- A minimum set of disclosure topics that are likely to constitute material information for companies in an industry, and a cost-effective model for disclosing that information in a decision-useful way for investors
- A method to understand and improve performance on ESG-related value drivers
- A way to meet the requirements of Regulation S-K

## Investors

- Comparable data for benchmarking and evaluating performance
- Standardized, decision-useful information in a trusted channel (i.e., 10-K)
- Tools and resources to analyze and understand sustainability risks and opportunities at the company, industry, and portfolio level

**SASB INDUSTRY WORKING GROUPS  
REFLECT BROAD-BASED INTEREST**



>2,800

**PARTICIPANTS**

\$23.4T

**ASSETS UNDER  
MANAGEMENT**

\$11.0T

**MARKET CAP**



# The SASB Difference

SASB standards are created for the market, by the market



# Comparing Fundamentals, Competing on Performance

SASB standards enable peer-to-peer comparisons and industry benchmarking

SASB Metrics

← → <http://www.tblanalysts.com/rt/chemicals/compare>

Sustainability Accounting Stan... TBL Analysts - Google Search ×

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## Sustainability Fundamentals: Chemicals Industry

**Sector**

RT

**Industry**

Chemicals

**View**

Company Compare

This view compares the company you have selected to other companies in the same industry. Click on the column heading to sort the report on any of the metrics shown.

<u>GHG Emissions</u>		<u>Air Quality</u>			<u>Energy &amp; Feedstock Management</u>			<u>Water Management</u>		<u>Hazardous Waste Management</u>			<u>Health, Safety &amp; Emergency Management</u>		
Scope 1 GHG Emissions	Nitrogen Oxide Emissions	Sulfur Oxide Emissions	VOC Emissions	Total Energy Consumed	Electricity Used	% Electricity	Total Water Use	Total Water Withdrawal	Total Waste	Hazardous Waste	% Hazardous Waste	Total Recordable Incident Rate	Total Fatalities		
Mill. mtCO <sub>2</sub> e	Th metric tons	Th metric tons	Th metric tons	Th MWh	Th MWh	%	Th m <sup>3</sup>	Th m <sup>3</sup>	Th metric tons	Th metric tons	%	Rate	Number		
ChemicalCo	CCO	27.7	17.1	2.0	8.8	165,361.0	--	--	--	3,121,000.0	1,500.0	615.0	41%	0.2	0.0
AmeLabs	AML	13.6	7.9	9.9	8.1	44,583.4	6,265.1	14.1%	20,193.8	20,193.8	--	405.2	--	0.6	1.0
Globex	GBX	--	8.1	2.2	7.3	92,777.8	--	--	139,000.0	--	1,740.0	1,110.0	64%	0.2	--
Northeast Chemicals	NEC	9.8	--	--	--	52,893.1	306.6	0.6%	70,854.2	--	70.4	27.9	40%	0.4	0.0
Bio Life Inc.	BIOI	1.5	3.8	1.6	0.1	6,972.2	2,438.9	35.0%	1,338,000.0	964,000.0	--	--	--	0.6	1.0
AmChem Industries	AMCI	0.7	0.5	--	0.5	2,758.3	683.3	24.8%	37,800.0	37,800.0	379.0	236.0	62%	0.3	2.0
Horizon International	HIN	--	--	--	--	8,250.5	--	--	21,433.0	--	29.6	--	--	0.5	0.0
Average		5.3	5.3	1.9	3.2	25,761.8	3,624.3	27.6%	212,269.5	324,730.8	13,333.1	166.6	37%	0.7	0.4
Median		9.8	7.9	2.1	7.3	44,583.4	3,122.2	19.5%	54,327.1	500,900.0	379.0	405.2	52%	0.4	1.0

**Company Name & Ticker**

ChemicalCo	CCO
AmeLabs	AML
Globex	GBX
Northeast Chemicals	NEC
Bio Life Inc.	BIOI
AmChem Industries	AMCI
Horizon International	HIN

Peer comparison

Consistent units

Complete data set

Benchmarking

*Illustrative*

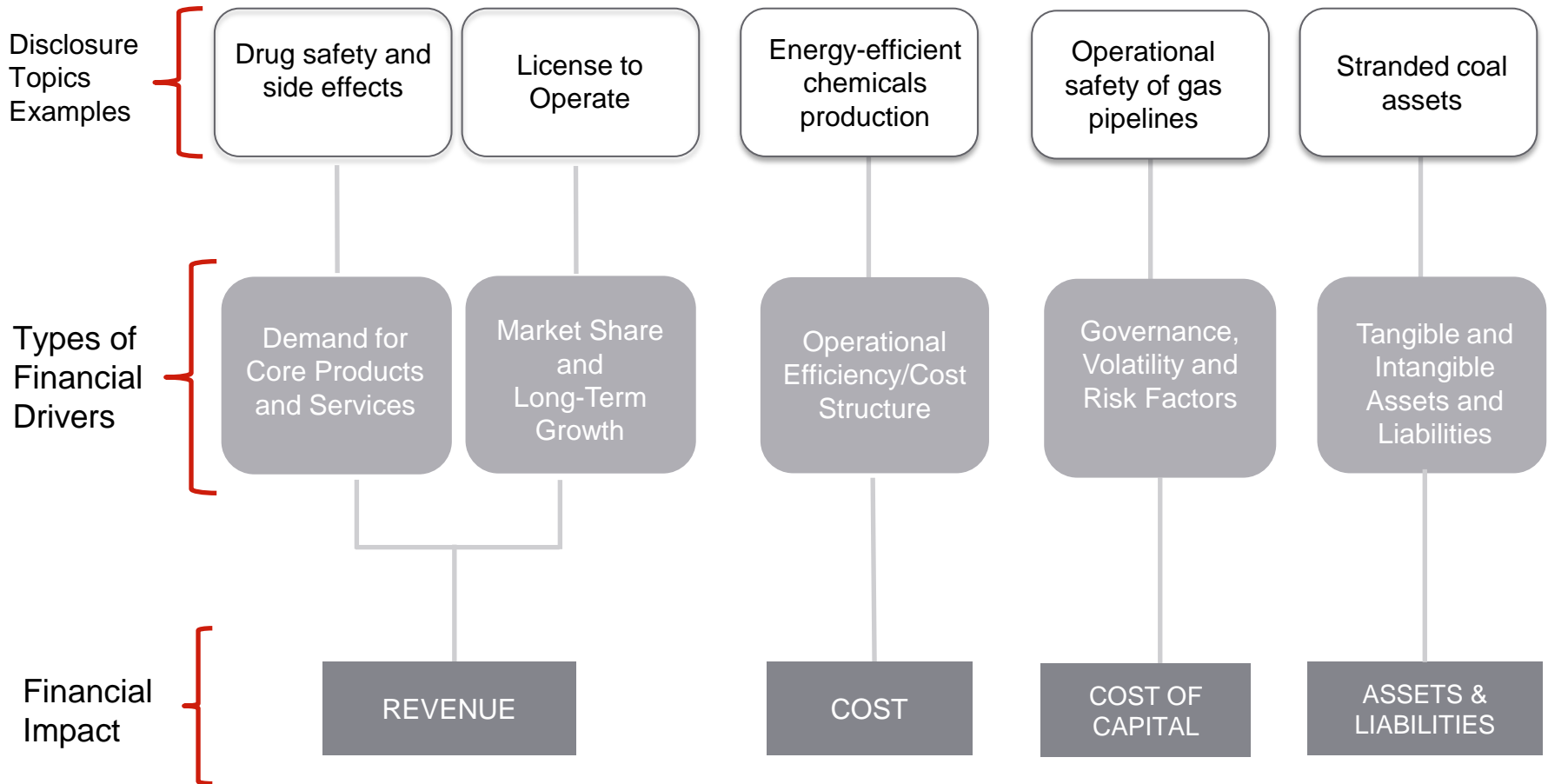
# An industry view is important to investors

Performance is evaluated within the context of industry value drivers

Industry	Disclosure Topic	Value Driver Impacted	Selected SASB Metrics
Automobiles	Fuel Economy & Use-phase Emissions	- Revenue	<ul style="list-style-type: none"> <li>Sales-weighted average passenger fleet fuel economy, consumption, or emissions, by region</li> </ul>
Auto Parts	Product Safety	<ul style="list-style-type: none"> <li>- Reputation</li> <li>- Liabilities</li> </ul>	<ul style="list-style-type: none"> <li>Number of recalls and total units recalled</li> </ul>
Oil & Gas – Exploration & Production	Reserves Valuation & Capital Expenditures	<ul style="list-style-type: none"> <li>- Assets</li> <li>- CAPEX</li> <li>- Cost of Capital</li> </ul>	<ul style="list-style-type: none"> <li>Sensitivity of hydrocarbon reserve levels to future price projection scenarios that account for a price on carbon emissions.</li> <li>Estimated carbon dioxide emissions embedded in proved hydrocarbon reserves</li> </ul>
Restaurants	Food Safety	<ul style="list-style-type: none"> <li>- Revenue</li> <li>- Reputation</li> </ul>	<ul style="list-style-type: none"> <li>Number of recalls, total amount of food product recalls</li> <li>Number of confirmed foodborne illness outbreaks, percentage resulting in CDC investigation.</li> </ul>
Agricultural Products	Climate Change Impacts on Crop Yields	<ul style="list-style-type: none"> <li>- Revenue</li> <li>- Cost of Capital</li> </ul>	<ul style="list-style-type: none"> <li>Average crop yield and five-year standard deviation per major crop type by major operating region</li> <li>Identification of principal crops and discussion of risks and opportunities presented by climate change</li> </ul>
Pharmaceuticals	Counterfeit Drugs	<ul style="list-style-type: none"> <li>- Revenue</li> <li>- OPEX</li> <li>- Reputation</li> </ul>	<ul style="list-style-type: none"> <li>Description of methods and technologies used to maintain traceability of products throughout the supply chain and prevent counterfeiting.</li> <li>Description of process for alerting end customers and business partners of potential or known risks associated with counterfeit products.</li> </ul>
Biotechnology	Affordability & Fair Pricing	<ul style="list-style-type: none"> <li>- Revenue</li> <li>- Reputation</li> </ul>	<ul style="list-style-type: none"> <li>Ratio of weighted average rate of net price increases (for all products) to the annual increase in the U.S. Consumer Price Index.</li> </ul>
Real Estate	Energy Management	<ul style="list-style-type: none"> <li>- OPEX</li> <li>- Assets</li> </ul>	<ul style="list-style-type: none"> <li>Like-for-like change in energy consumption of portfolio area with data coverage, by property subsector.</li> <li>Percentage of eligible portfolio that (1) has obtained an energy rating and (2) is certified to ENERGY STAR®, by property subsector.</li> </ul>

# SASB's Process Identifies Material Sustainability Issues

Only topics with demonstrated evidence of impacts on the financial condition, operating performance, and/or risk profile are included in the standards

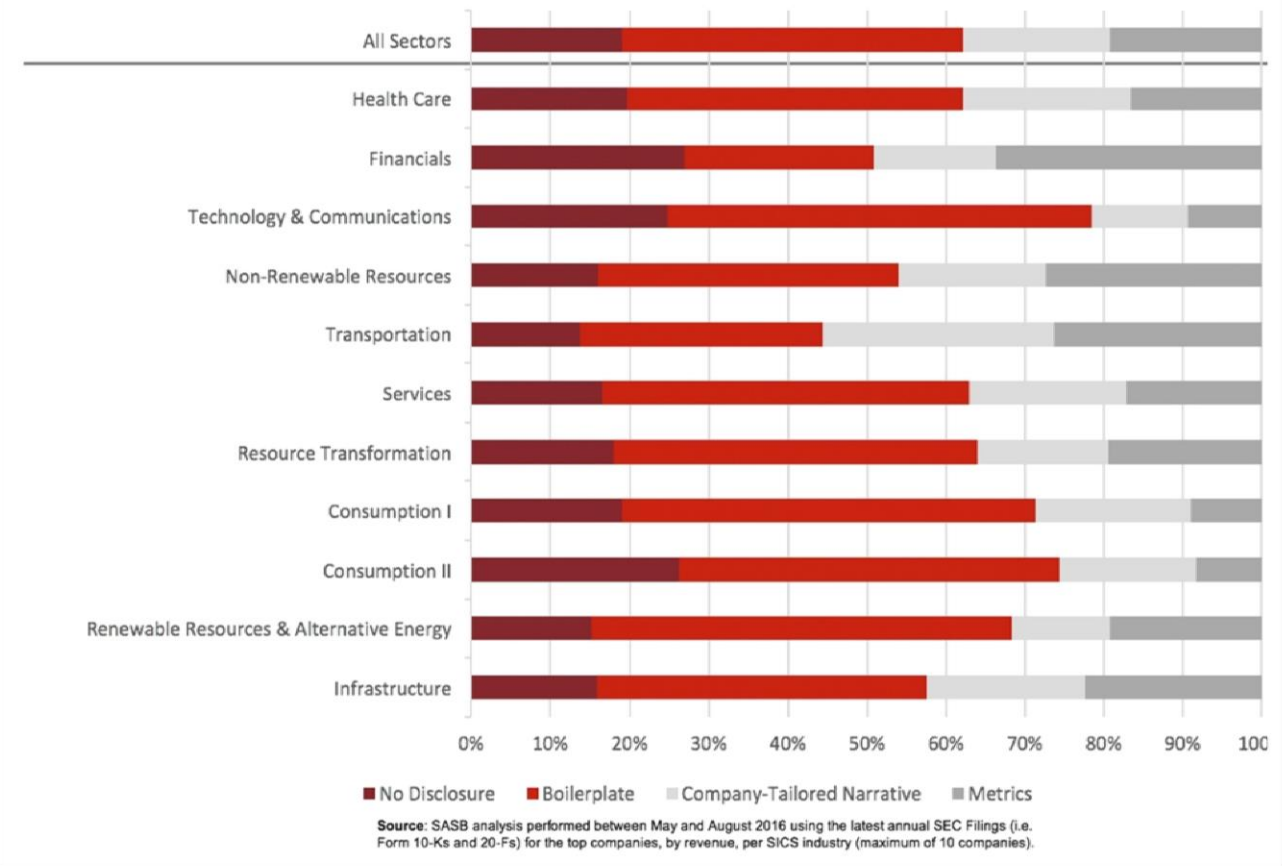


# Establishing the Disclosure Baseline for SASB topics in the 10-K

Companies are disclosing on SASB topics, improvements in quality needed

- **69 percent** of companies are already addressing at least three-quarters of the SASB disclosure topics in their industry
- **38 percent** are already providing disclosure on *all* disclosure topics
- However, more than **50 percent** of sustainability-related disclosures in SEC filings use boilerplate language

Figure 2. Sustainability disclosure in SEC filings for FY 2015 (by sector)



Source: SASB Annual State of Disclosure Report, 2016



# A Standard will Improve Disclosure From Boilerplate to Metrics

Analysts need comparable data in order to compare performance and price risk

**Sector:** Consumption: Food & Beverage

**Industry:** Alcoholic Beverages

**Disclosure Topic:** Water Management

**SASB Metric:** (1) Total water withdrawn and (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress

## Boilerplate disclosure:

*“Climate change and water availability may negatively affect our business and financial results... Clean water is a limited resource in many parts of the world and climate change may increase water scarcity and cause a deterioration of water quality in areas where we maintain brewing operations. The competition for water among domestic, agricultural and manufacturing users is increasing in some of our brewing communities.... The above risk, if realized, could result in a material adverse effect on our business and financial results.”*

*[Form 10-K filed 12-Feb-15]*



## Quantitative disclosure:

*“Overall this year, Diageo has delivered improved performance across all water and other environmental target areas versus the prior year, and progressed towards meeting 2015 goals. We reduced absolute water use by 9% or 2,268,000 cubic metres while water efficiency improved by 2.4% compared to the prior year. In water-stressed locations, we have reduced water wasted by 12%, an important contribution towards our target of a 50% reduction versus the company’s 2007 baseline.”*

*[Form 20-F filed 12-Aug-14]*

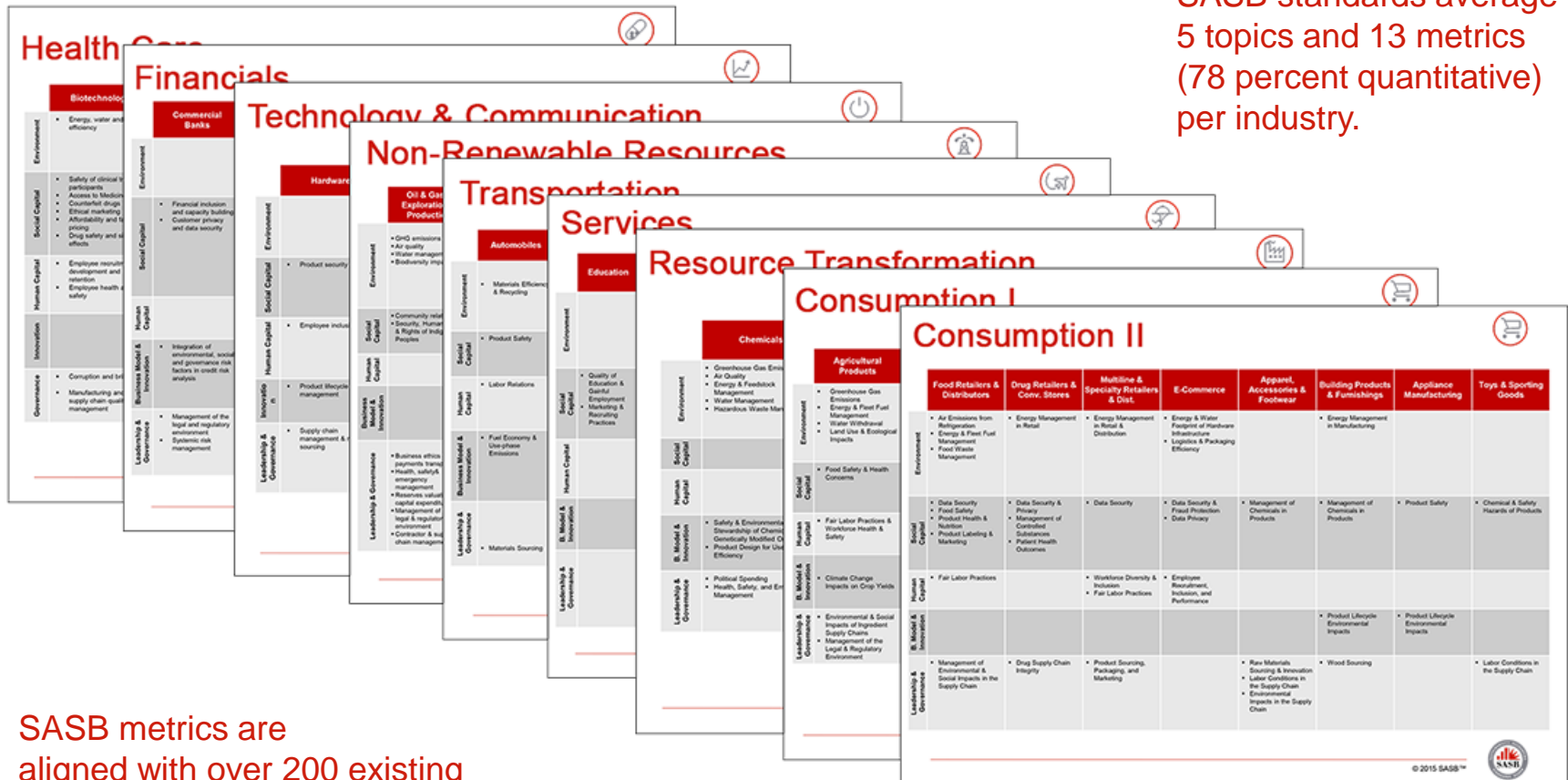
DIAGEO



# Cost-Effective Disclosures

SASB provides a cost-effective way to report on material sustainability factors

SASB standards average 5 topics and 13 metrics (78 percent quantitative) per industry.



SASB metrics are aligned with over 200 existing frameworks, regulations, and certifications.



# Robust Standards Designed to Provide Decision-Useful Information

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



Industry-specific disclosure topics

Table 1. Material Sustainability Topics & Accounting Metrics

TOPIC	ACCOUNTING METRIC
Greenhouse Gas Emissions	Gross global Scope 1 emissions, percentage covered under a regulatory program, percentage by hydrocarbon resource
	Amount of gross global Scope 1 emissions from: (1) combustion, (2) flared hydrocarbons, (3) process emissions, (4) directly vented releases, and (5) fugitive emissions/leaks
	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
Air Quality	Air emissions for the following pollutants: NO <sub>x</sub> (excluding N <sub>2</sub> O), SO <sub>x</sub> , volatile organic compounds (VOCs), and particulate matter (PM)
Water Management	Total fresh water withdrawn, percentage recycled, percentage in regions with High or Extremely High Baseline Water Stress
	Volume of produced water and flowback generated;

Accounting metrics for each disclosure topic

## Reserves Valuation & Capital Expenditures

### Description

Estimates suggest that E&P companies are unlikely to be able to extract a significant proportion of probable oil and gas reserves if GHG emissions are to be controlled to limit global temperatures to 1.5 degrees Celsius. Companies with more carbon-intensive reserves and production and higher extraction costs could face greater risks. Regulatory limits on GHG emissions, together with improved competitive energy technologies, could lower or reduce the growth in global demand, and therefore reduce the value of 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 near-term risks related to climate change mitigation actions can help prevent current asset impairment and enhance asset and creditworthiness.

### Accounting Metrics

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

Technical protocol for compiling data; activity metrics for normalization



# Benefits of a Market Standard

Wide variation in metrics reported severely limits usefulness

- Number of smart meters deployed in service area
- Number of smart meters expected to be deployed next year
- Capex on smart meters
- Expected capex on smart meters next year
- Number of customers with regulatory energy efficiency targets
- Progress in meeting energy demand reductions
- Revenue generated by energy conservation performance targets
- Future revenue opportunities created by energy efficiency performance targets
- Energy efficiency incentive awards
- Amount under recovered from energy conservation performance targets
- Energy savings resulting from energy conservation programs
- Energy savings resulting from demand side management programs
- Energy demand reductions required by regulations and percentage fulfillment
- Cost of energy efficiency and peak demand programs
- Regulated operations with decoupled rate mechanisms
- Recoveries from efficiency-related rate mechanisms

*\*Examples of metrics for the “End-Use Efficiency & Demand” in the Electric Utilities Industry*



# Cost-Effective Alignment with Industry Standards

SASB references metrics already in use by industry, from 200+ organizations

## Health Care

- WHO Prequalification of Medicines Programme (PQP)
- FDA FAERS and MedWatch
- FDA Clinical Investigator Inspections
- Rx-360 International Pharmaceutical Supply Chain Consortium
- Centers for Medicare & Medicaid Services requirements
- Provisions of the Patient Protection and Affordable Care Act (PPACA)
- Hospital Values Based Purchasing Performance score
- HIPAA and HITECH

## Transportation

- New Car Assessment Program
- EU End of Life of Vehicle Directive
- NHTSA
- Corporate Average Fuel Economy
- AIAG
- Federal Aviation Administration (FAA)
- International Civil Aviation Organization (ICAO)
- Federal Motor Carrier Safety Administration (FMCSA) - Behavior Analysis and Safety Improvement Categories (BASICS)
- International Maritime Organization (IMO) metrics and conventions
- International Convention for the Prevention of Pollution from Ships (MARPOL)
- Federal Rail Administration (FRA) Recommended Violation Defects

## Services

- Student Right-to-Know-Act
- Gainful Employment Rule
- National Council on Problem Gambling's Internet Responsible Gambling Standards
- CDC Foodborne illness standards
- USDA Dietary Guidelines for Americans
- Advertising Self-Regulatory Council

## Financials

- FINRA
- Basel III
- Federal Financial Institutions Examination Council's (FFIEC)
- Equator Principles (EP III)
- Dodd-Frank Act Stress Test (DFAST)
- COSO ERM Framework
- Dodd-Frank Wall Street Reform and Consumer Protection Act
- FEMA special flood hazard areas

## Consumption

- Marine Stewardship Council
- Roundtable for Responsible Soy
- Roundtable for Sustainable Palm Oil
- Rainforest Alliance
- Sustainable Agriculture Initiative
- World Health Organization (WHO) Acute Toxicity Hazard Categories
- Global Food Safety Initiative (GFSI)
- Natural Resources Conservation Service (NRCS) Comprehensive Nutrient Management Plan (CNMP)
- Food Safety and Inspection Service (FSIS) of the U.S. Department of Agriculture (USDA)
- USDA Smart Snacks in School criteria
- Children's Food and Beverage Initiative (CFBAI) Uniform Nutrition Criteria
- FDA's Recalls, Market Withdrawals, & Safety Alerts
- USDA's Current Recalls and Alerts
- Children's Food and Beverage Initiative (CFBAI) Uniform Nutrition Criteria
- Sustainable Apparel Coalition Higg Index
- ICTI CARE Process (ICP)
- California DTSC Candidate Chemicals List
- U.S. Green Building Council's (USGBC) LEED
- ISO 14040 and ISO 14044
- ENERGY STAR®
- WaterSense
- ANSI/BIFMA e3 level®: Business Furniture

## Technology & Communication

- EICC Validated Audit Process
- EPEAT® • Basel Action Network's e-Steward® standard
- U.S. EPA's Responsible Recycling Practices (R2) standard
- (SEC) CF Disclosure Guidance: Topic No. 2, Cybersecurity
- International Electrotechnical Commission - IEC 62474
- ENERGY STAR®
- Digital Advertising Alliance (DAA) Self-Regulatory Program
- Children's Online Privacy Protection Act (COPPA)
- Directive 2002/58/EC (ePrivacy Directive)
- National Institute of Standards and Technology (NIST)

## Resource Transformation

- REACH substances of very high concern (SVHC)
- American Chemistry Council's Responsible Care Management System
- World Health Organization (WHO) Acute Toxicity Hazard Categories
- Center for Chemical Process Safety's "Process Safety Leading and Lagging Metrics
- U.S. Consumer Product Safety Commission
- Airworthiness Directives - FAA, ESSA
- OECD Anti-corruption guidelines
- EPEAT®
- Basel Action Network's e-Steward® standard
- U.S. EPA's Responsible Recycling Practices (R2) standard
- (SEC) CF Disclosure Guidance: Topic No. 2, Cybersecurity
- International Electrotechnical Commission - IEC 62474
- ENERGY STAR®
- Heavy Duty (HD) National Program
- Forest Stewardship Council
- Sustainable Forest Initiative
- Programme for the Endorsement of Forest Certification
- American Tree Farm System

## Non-Renewable Resources

- Transparency International's Corruption Perception Index
- IFC Performance Standards on Environmental and Social Sustainability
- IEPECA Oil and Gas Industry Guidance on Voluntary Sustainability Reporting
- Renewable Volume Obligation (RVO)
- International Union for Conservation of Nature (IUCN) Protected Areas
- Pipeline and Hazardous Materials Safety Administration (PHMSA)
- ANSI/API Recommended Practice 754 – Process Safety Performance Indicators for the Refining and Petrochemical Industries
- Mine Safety and Health Administration (MSHA)

## Renewable Resources & Alternative Energy

- Renewable Fuel Standard (EPA RFS2)
- International Food Policy Research Institute Global Hunger Index
- California Air Resources Board Low Carbon Fuel Standard Program
- European Union Renewable Energy Directive
- Roundtable on Sustainable Biomaterials (RSB) certification
- Basel Action Network's e-Steward® standard
- U.S. EPA's Responsible Recycling Practices (R2) standard
- IEC 61400-1, Edition 3.0—Design requirements
- Forest Stewardship Council
- Sustainable Forest Initiative
- Programme for the Endorsement of Forest Certification
- American Tree Farm System
- International Finance Corporation's (IFC) Performance Standards on Environmental and Social Sustainability
- International Union for Conservation of Nature (IUCN) Protected Areas
- United Nations Environment Program
- International Labour Organization (ILO) conventions

## Infrastructure

- EPA Hazard Potential Classification
- U.S. EPA National Environmental Policy Act (NEPA)
- National Institute of Standards and Technology (NIST) Smart Grid Interoperability Standards
- Department of Energy's (DOE) Federal Energy Management Program (FEMP) M&V Guidelines
- State renewable portfolio standards (RPS)
- System Average Interruption Duration Index (SAIDI)
- U.S. National Primary Drinking Water Regulations
- The U.S. Safe Drinking Water Act
- The European Drinking Water Directive
- World Health Organization (WHO) Guidelines for Drinking-water Quality
- FEMA Special Flood Hazard Areas (SFHA)
- Global Real Estate Sustainability Benchmark (GRESB) Real Estate Survey Guidance
- US Green Building Council LEED
- Green Globes
- ENERGY STAR
- HERS® Index Score
- WaterSense

# SASB Materiality Map

A first view of exposure to material sustainability risks across a diversified portfolio



## SASB Materiality Map™

SASB's Materiality Map identifies likely material sustainability issues on an industry-by-industry basis. Click on a highlighted cell at the sector-level and then on any highlighted cell at the industry-level to see suggested accounting metrics and additional information for each issue.

### ISSUES

	Health Care	Financials	Technology and Communications	Non-Renewable Resources	Transportation	Services	Resource Transformation	Consumption	Renewable Resources & Alternative Energy	Infrastructure
	Click to expand	Click to expand	Click to expand	Click to expand	Click to expand	Click to expand	Click to expand	Click to expand	Click to expand	Click to expand
<b>Environment</b>										
GHG emissions										
Air quality										
Energy management										
Fuel management										
Water and wastewater management										
Waste and hazardous materials management										
Biodiversity impacts										
<b>Social Capital</b>										
Human rights and community relations										
Access and affordability										
Customer welfare										
Data security and customer privacy										
Fair disclosure and labeling										
Fair marketing and advertising										
<b>Human Capital</b>										
Labor relations										
Fair labor practices										
Employee health, safety and wellbeing										
Diversity and inclusion										
Compensation and benefits										
Recruitment, development and retention										
<b>Business Model and Innovation</b>										
Lifecycle impacts of products and services										
Environmental, social impacts on assets & operations										
Product packaging										
Product quality and safety										
<b>Leadership and Governance</b>										
Systemic risk management										
Accident and safety management										
Business ethics and transparency of payments										
Competitive behavior										
Regulatory capture and political influence										
Materials sourcing										
Supply chain management										



# Major Themes from Standards Setting

Interesting patterns have begun to emerge after 10 sectors and 79 industries

	Market cap of companies affected	Percentage of U.S. equity market
<b>CLIMATE CHANGE</b>		
Event readiness in health care delivery, carbon intensity of reserves in oil and gas, emissions from refining, vulnerability of real estate and insurance, impact on crop yields	\$33.8T	93%
<b>PRODUCT ALIGNMENT &amp; SAFETY</b>		
Counterfeit drugs, food quality and nutrition, car and airline safety, responsible gambling and drinking, product design and take-back	\$29.1T	80%
<b>RESOURCE INTENSITY &amp; SCARCITY</b>		
24/7 health care facilities and data centers, fuel management in transportation, rare earth minerals in manufacturing, water consumption in beverages, oil and gas, and agriculture	\$26.9T	75%
<b>ACCESS &amp; AFFORDABILITY OF SERVICES</b>		
Orphan drugs and pricing, access to medicine and coverage, transparency in procedures and billing, financial inclusion and capacity building	\$8.3T	23%
<b>FINANCING &amp; RESPONSIBLE LENDING</b>		
Responsible lending and transparency of terms in mortgages, consumer finance and education, financial literacy initiatives	\$3.9T	11%

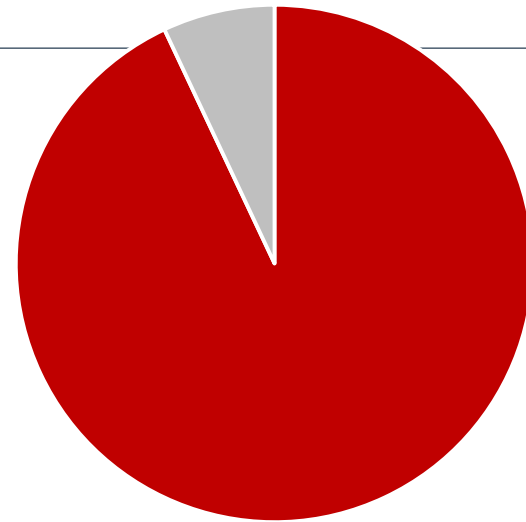
# An Example of the Importance of Industry-Specific Metrics

Climate change affects majority of capital markets, but industry impacts are unique

## CLIMATE RISK

Impacts 72 of 79 industries

- *Event readiness* in Health Care Delivery
- *Carbon intensity of reserves* in Oil & Gas – Exploration & Production
- *Emissions from refining* in Oil & Gas – Refining & Marketing
- *Vulnerability of real estate* in Insurance
- *Impact on crop yields* in Agricultural Products
- *Financed emissions* in Commercial Banks



93%

Percentage of  
U.S. equity  
market  
impacted

\$33.8T

Market cap of  
companies  
affected

# Integrated Into Investment Decisions

SASB standards and related products support a variety of investment strategies

## MACRO TRENDS

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- Which industries are facing the greatest sustainability headwinds?
- How do sustainability issues impact core industry drivers, such as consumer preference or regulatory change?

## COMPANY BENCHMARKING

---

- Which companies are leaders?
- Which are laggards?

## PORTFOLIO ALLOCATION

---

- How can I measure and diversify concentrated sustainability risk?
- What is sustainability's impact on portfolio performance?

## SECURITY VALUATION

---

- How should I adjust my discounted-cash-flow analysis or valuation metrics for sustainability risks and impacts?

# Meeting the Needs of Investors: The Investor Advisory Group

24 leading asset owners and asset managers dedicated to advancing uptake of SASB standards

Aberdeen



STATE STREET  
GLOBAL ADVISORS.



BLACKROCK®



CALSTRS



PIMCO



# Materiality Matters

Harvard research shows The SASB Model drives superior performance

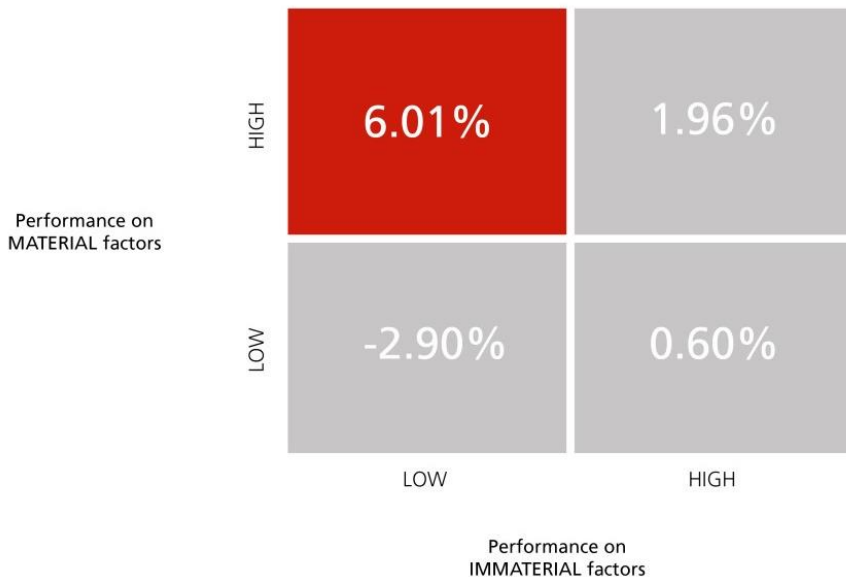


## “Corporate Sustainability: First Evidence on Materiality,”

Working Paper by Mozaffar Khan, George Serafeim, and Aaron Yoon

*Harvard Business School, 2015*

Stock Returns (in annualized alpha) by Type of  
Sustainability Performance



### Findings:

- Using SASB's framework, Harvard researchers found that **firms with good performance on 'material' sustainability issues' and concurrently poor performance on 'immaterial' sustainability issues' enjoy the strongest financial returns.** These results speak to the efficiency of firms' sustainability investments, and also have **implications for asset managers** who have committed to the integration of sustainability factors in their capital allocation decisions.
- They also found that **80 percent of disclosures are immaterial**, having no correlation to positive performance.





# Regulation S-K Concept Release

Last April the SEC sought comments on disclosure of public policy and sustainability matters

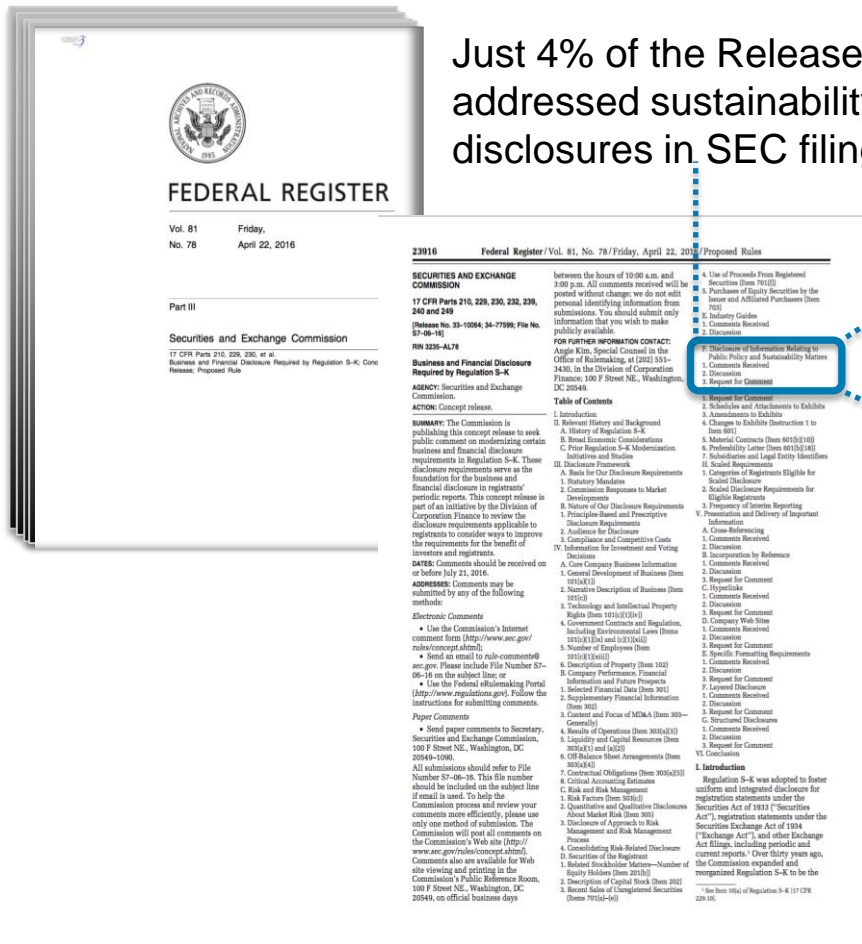


- What ESG issues are important to investment decisions?
- What would an ESG disclosure framework look like? Could it be flexible enough to address evolving issues?
- Would line-item disclosure requirements be consistent with The Commission's rule-making authority? Would they yield immaterial information?
- Does information on ESG factors reported outside Commission filings address investor needs?

# Regulation S-K Concept Release Comments

The SEC's Concept Release: Business and Financial Disclosure Required by Regulation S-K was issued April 13, 2016 as part of its Disclosure Effectiveness Project.

Just 4% of the Release addressed sustainability disclosures in SEC filings, yet...



Letters discussing Sustainability

Letters focused on other topics

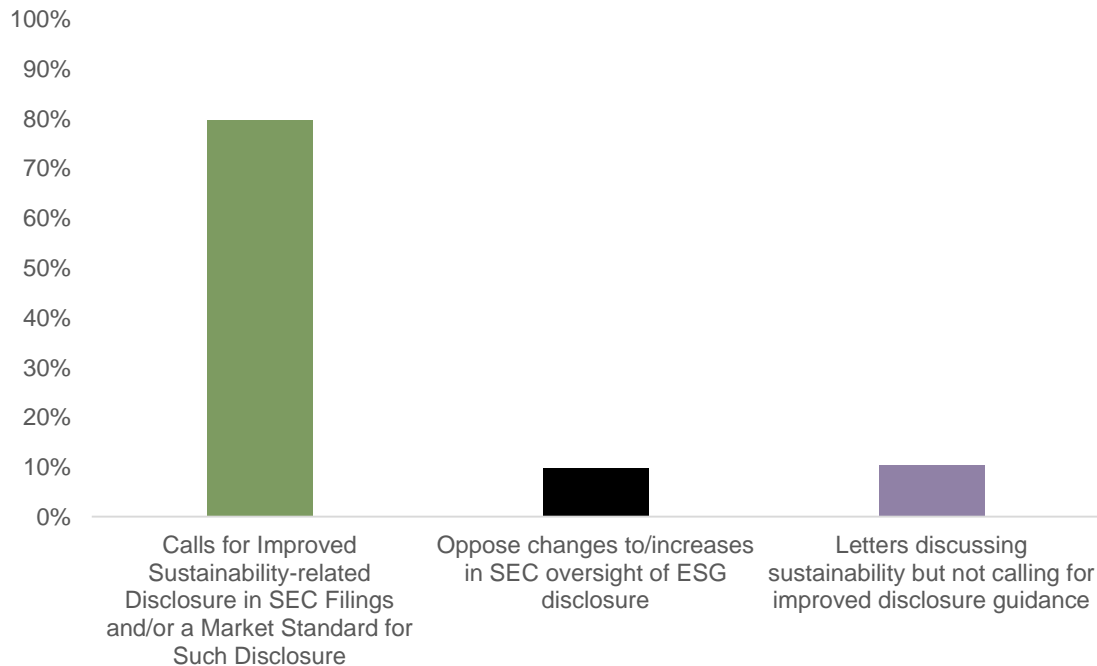
... 2/3 of non-form comment letters discuss sustainability disclosures.

# Regulation S-K Concept Release Comments

Analysis of 276 non-form letters reveals strong support for improved disclosure of sustainability-related information in SEC filings

# 80%

of comment letters\* discussing sustainability  
call for improved disclosure in SEC filings



## In favor

(representative responses)

- BMO Global Asset Management
- CalPERS
- CalSTRS
- California Insurance Commission
- Hermes Investment Management
- Investor Network on Climate Risk
- MSCI
- Pension Consulting Alliance
- Norges Bank Investment Management
- US EPA

\*Non-form comment letters



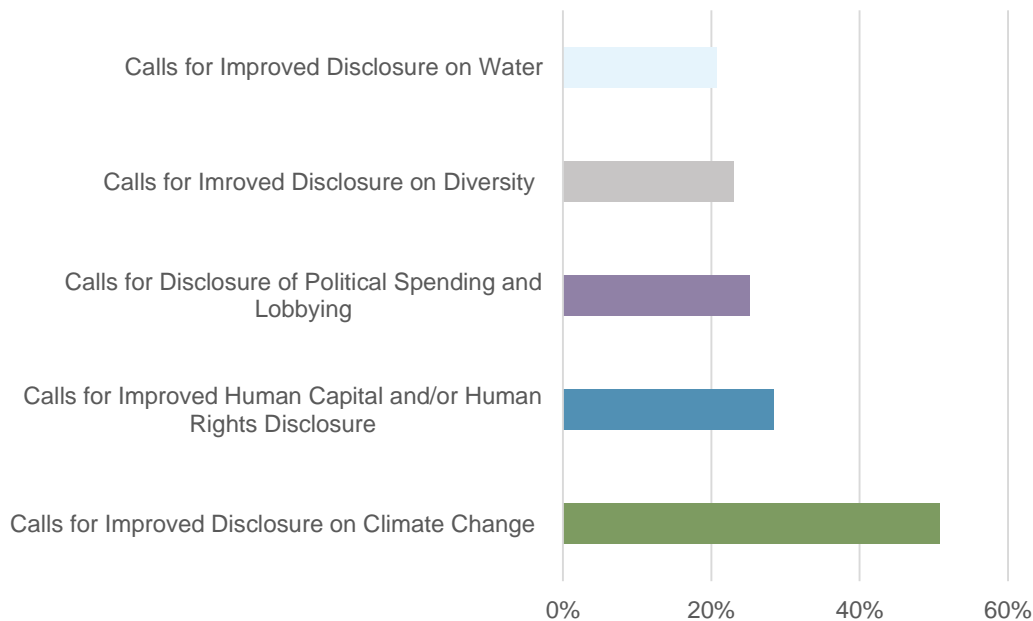
# Regulation S-K Concept Release Comments

A deeper dive – investor interest and the line-item question

## Strong Investor Input

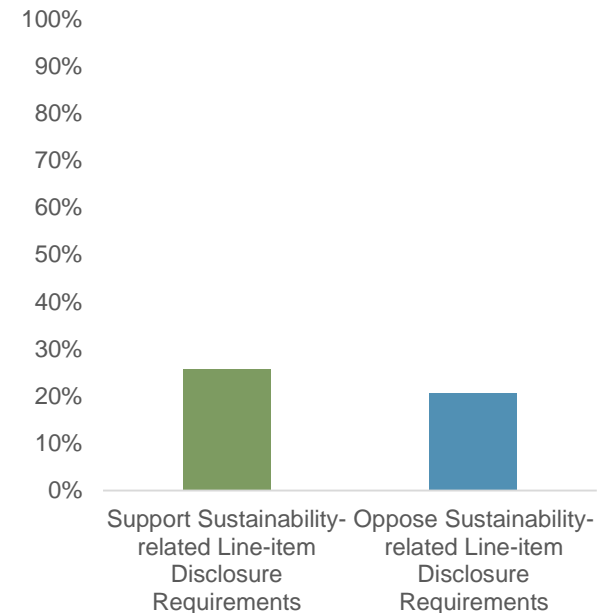
37% of all Comment Letters\* from Asset Owners and Managers

### Top Five Sustainability-related Reg. S-K Comment Topics



### Comments on Sustainability-related Line-item Disclosure Requirements:

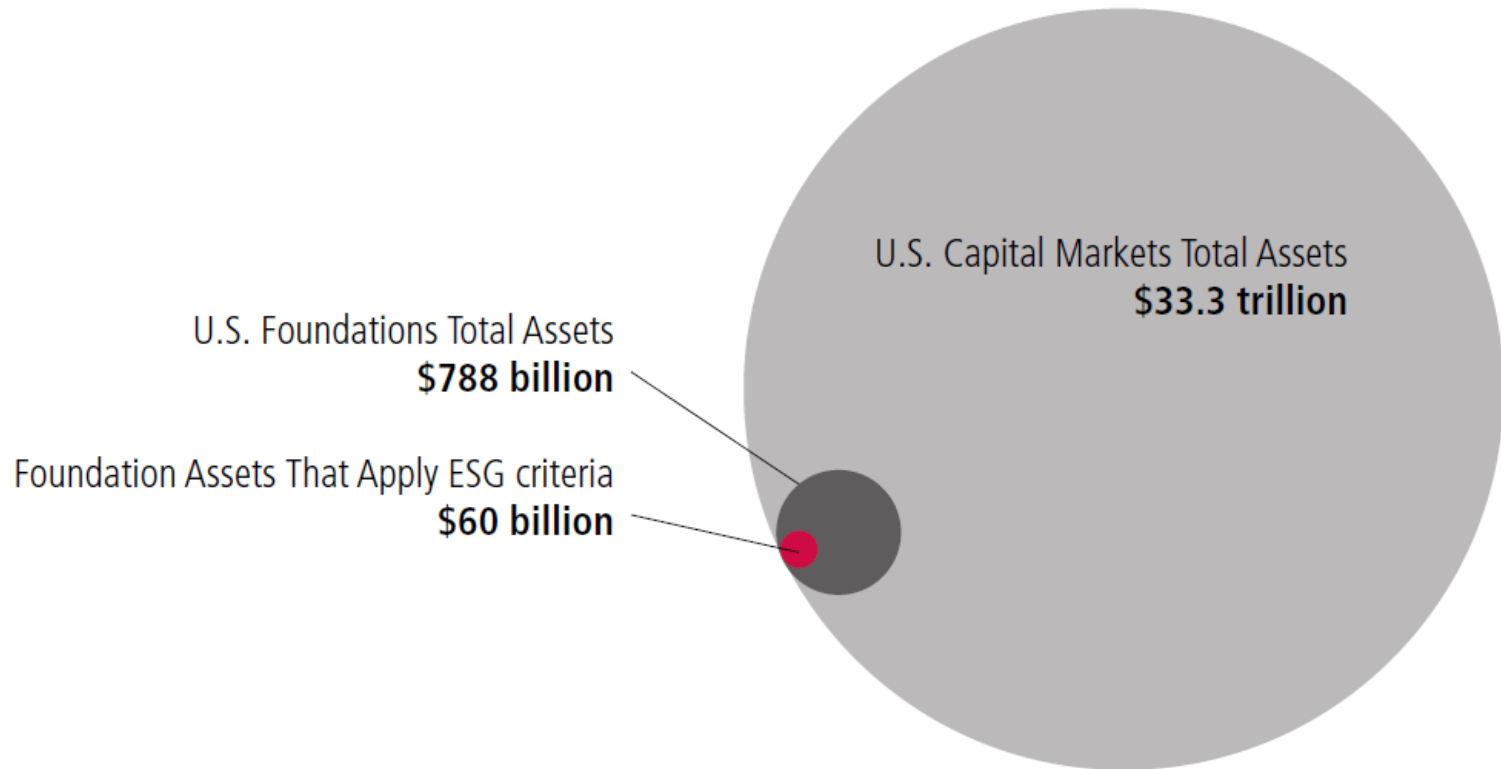
26% Support; 21% Oppose



\*Non-form comment letters

# Size of Capital Markets vs. Philanthropy in the U.S.

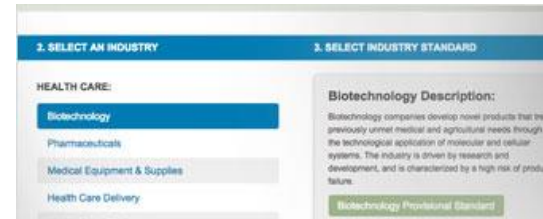
We must leverage the power of the capital markets to address critical sustainability issues



# Supporting the Market

SASB standards are supported by a host of tools and resources

Technical  
Bulletins



Standards  
Navigator

Data  
Providers



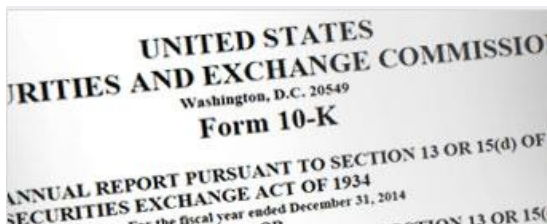
Research  
Briefs

Materiality  
Map

The image is a materiality map. It has a table-like structure with "ISSUES" listed on the left and "Sectors" listed on the top. The sectors are "Biotechnology", "Pharmaceuticals", "Medical Equipment & Supplies", and "Health Care". The issues listed are "GHG emissions", "Air quality", "Energy management", "Fuel management", "Water and wastewater management", "Waste and hazardous materials management", "Biodiversity impacts", and "Social Capital". The cells in the table are shaded in different colors (red, grey, white) to indicate the materiality of each issue for each sector.

FSA Level  
I and II

Mock  
10Ks



Guidance

- Implementation
- Engagement
- Integration



“

The best way to predict the future is to create it.

- Abraham Lincoln ”



**Accounting for a  
Sustainable Future**