Integrated Financial and Sustainability Reporting in the United States

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IRRC Institute

Sustainable Investments Institute

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Several years ago, an accountant came to my office to discuss the financial implications of sustainability disclosure and related programs. I was intrigued just to hear an accountant was interested in the topic. The accountant was Mike Krzus, who at the time was working with Harvard Professor Bob Eccles on a book titled, *One Report, Integrated Reporting for a Sustainable Strategy*. From their book launch through several meetings at Harvard and their continuing efforts today, Mike and Bob have challenged my thinking about the topic of integrated reporting and were both generous with their time and advice on this study. I owe both my gratitude.

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Executive Summary

Integrated reporting, as defined by its present champions, seeks to identify value drivers in companies linked to human, intellectual, natural and social capital, in addition to more traditional financial and manufactured forms of capital, and to present this information to investors in regulatory filings, such as Form 10-Ks or glossy annual reports. Much of the information integrated reporting looks to tease out from companies would be defined by economists as externalities—a cost or benefit resulting from an activity or transaction and affecting an otherwise uninvolved party, who did not choose to incur that cost or benefit. These include negative externalities, such as pollution, natural resource depletion and human rights abuses, as well as positive externalities such as job creation, community development and cures for diseases.

By more general definitions, integrated reporting in the United States has been at least a partial reality for decades as regulations sought to address some of these externalities. Beginning in the 1970s, the Securities and Exchange Commission (SEC) started setting rules for disclosing environmental liabilities and contingencies as well as material impacts of environmental laws and regulations. More recently, the SEC has addressed climate change, board diversity, mine safety, conflict minerals, payments to governments by resource extraction firms and other sustainability topics in rulemakings and guidance to companies for Form 10-Ks and proxy statements, although it has not reviewed sustainability disclosures in any systematic way. (Part I of this report reviews regulatory developments in this area to date.)

By contrast, integrated reporting as envisaged by its contemporary advocates—in broad terms a strategic evaluation and reporting out of material sustainability risks and opportunities and their pertinence to a company's business planning and financial results—remains largely foreign to U.S. companies. Although many firms are increasingly talking about these issues in sustainability reporting platforms, disclosures by U.S. companies are largely not integrated in making the connection to the bottom line or presenting the information in the context of business strategies. For example, while a large and growing number of U.S. companies are reporting on their greenhouse gas emissions in sustainability reports, few tell investors how investments to mitigate climate change are realizing returns from cost savings from energy efficiency projects or revenues from less carbon-intensive products. In addition, material sustainability risks are rarely discussed in securities filings or annual reports, which are far more frequently accessed by shareholders than sustainability reports. And, which sustainability issues to talk about in the context of financial reporting and how to disclose them are largely not guided by any set of uniform principles, rules or regulations.

Inasmuch, integrated reporting in the United States is at a crossroads. As **Microsoft** said in a recent comment letter on integrated reporting, "Many of us involved in financial reporting have lamented, admittedly in very generalized terms, that financial reporting seems to be moving more towards a compliance exercise rather than a communication exercise." In particular, advocates of integrated reporting complain that today's financial reporting requirements in the United States are failing investors because they:

- Neglect to make connections between corporate strategies and significant short- and long-term risks and opportunities.

- Ignore significant sustainability challenges and opportunities facing companies, even in cases where these areas present tremendous financial implications for the firms in question.

- Tend to focus on past, short-term performance and neglect a longer-term view of the company's prospects.

- Omit significant liabilities, especially in cases where they are contingent or difficult to quantify, even if the potential downsides are substantial.

As a result, despite the great volume of reporting that exists for investors, many contend that present reporting is not offering the information they need to make informed decisions and to communicate effectively a company's strategy and means to generate value.

At the same time, the advent of integrated reporting is raising other questions from long-time sustainability reporting advocates about whether a move to a more unified, financially-focused format will diminish other disclosure and related activities by companies that might not make a tremendous net impact on corporate profits but are considered important to other types of stakeholders. Coming back to the concept of externalities, in the absence of regulation companies often have tremendous abilities to exercise both harm and good and to report on these outcomes in areas that, at least not immediately apparent, have little financial implications for them. In addition, even where financial positives or negatives exist, they are difficult to measure, such as the value of avoiding bad publicity or lawsuits or the brand value and recognition good corporate practices can receive. Therefore, others are concerned that integrated reporting might distract from some of these long-run themes that have been central to the sustainable and responsible investment movement.

Over the years, several organizations have stepped in to address these issues. As early as the 1970s, the National Resources and Defense Council (NRDC) began lobbying for the Securities and Exchange Commission (SEC), with some success, to improve environmental reporting by companies to investors. It later teamed with Ceres to push for guidance from the SEC on disclosures of climate change risks and won in 2010. Ceres is now working on a set of mandatory sustainability disclosures as part of listing requirements for major stock exchanges through its Investor Network on Climate Risk (INCR). US SIF, the Forum for Sustainable and Responsible Investment, wrote to the SEC in 2009 asking for mandatory sustainability reporting requirements for annual Form 10-K filings, and another group, the Corporate Reform Coalition, has coordinated a petition to the SEC on political spending disclosures. The Carbon Disclosure Project (CDP) continues to press and persuade a growing number of companies to disclose their greenhouse gas emissions and to commit to targets. The Global Reporting Initiative (GRI) will release its fourth generation of sustainability reporting guidelines for organizations in May, and it is working with the International Integrated Reporting Council (IIRC), formed in 2010 through The Prince's Accounting for Sustainability Project (A4S), on an integrated reporting framework. In addition, the newly founded Sustainable Accounting Standards Board (SASB) set out last year on a more than two-year effort to define integrated reporting in the United States by establishing standards for disclosures in Form 10-K filings by industry sector. The tremendous amount of activity in this area is sparking a broader debate in the United States and around the globe about the efficacy of calls for integrated reporting and the substance of the standards it should embody. The work is considered important by a wide range of investors, accountants, civil society organizations and companies themselves. (Part II of this report reviews efforts to define integrated reporting.)

Background information: The Sustainable Investment Institute (Si2) with financial support and oversight of the **Investor Responsibility Research Institute (IRRCi)** set out to assess the lay of the land in the United States by investigating present sustainability-related reporting *requirements* in financial filings, including those for Form 10-K, annual reports and proxy statements. The project also reviewed the activities of organizations working in the field of sustainability reporting for investors and voluntary efforts that have been, if not widely adopted, used by a significant number of U.S. publicly traded companies—including the aforementioned Global Reporting Initiative's guidelines as well as the Carbon Disclosure Project's annual questionnaire and scoring system. Si2 and IRRCi also took stock of more recent efforts by the International Integrated Reporting Committee (IIRC) to form a global framework for integrated reporting, as well as the recently formed Sustainability Accounting Standards Board (SASB) and its efforts to develop sustainability accounting standards for U.S. companies.

Present practices: Si2 then designed and completed a study taking a snapshot of the state of integrated reporting in the United States today. The aim was to analyze whether companies' sustainability disclosures in regulatory filings and annual reports were truly lagging those in sustainability reporting platforms, overall largely inconsistent and incomparable between peers, and lacking links to financial performance even in the face of material risks as advocates of integrated reporting claim. We also sought to evaluate what companies were disclosing and believed to be material to financial results in the scope of sustainability risks and opportunities more broadly and by industry sector.

The resulting analysis in this report contains a comprehensive *empirical* look at the sustainability disclosures of companies in the S&P 500 index, as reflected in 10-K filings, annual reports and proxy statements. The project collected information on and analyzed 113 indicators for each of the 500 companies or 56,500 data points in all. In addition, we examined information companies included in sustainability reporting formats when it was of particular financial note or presented as a core element of business strategy. For the 10-K and annual reports, Si2 searched for mentions of the following sustainability topics:

- **Climate change**, including mentions of energy and fuel efficiency efforts as well as investments in renewable energy and other carbon-free and low-carbon technologies.
- **Environmental management**, namely systems and procedures to govern environmental and/or environmental health and safety issues, including the International Standards Organization's 14000/1 standards and the OHSAS 18000/1, which was developed by a consortium of standards-setting organizations.
- **Water use**, specifically as it relates to water consumption.
- **Hazardous waste**, including air emissions deemed to be toxic.
- **Waste management**, excluding the treatment, storage and disposal of toxic waste, but including all other forms of non-hazardous waste and recycling efforts.
- **Product formulations**, including investments in green, fair trade and other sustainable product lines, as well as life-cycle sustainability impact assessments of product lines.
- **Employment**, including worker health and safety, workforce development, employee engagement, labor relations, and workplace diversity.
- **Human rights**, including fundamental rights at work, sweatshop and supply chain issues.
- **Ethics**, as it relates to the issues of fraud and extortion, but not covering broader governance topics, such as executive pay, board independence and oversight, or risk controls.

For each area, Si2 asked three principal questions:

- Did the company discuss the issue as a **financial risk**?
- Did the company see any **business opportunities** related to the issue from product developments, customer requirements or cost savings?
- Did the company attach a **monetary value** to these risks or opportunities?

Si2 reviewed the same issue areas in its examination of sustainability reporting by each company, but with a slightly different focus. Instead of collecting all mentions of these issues in the reports, Si2 examined if companies discussed the issue in the context of the company's overall strategic business plan or other financial context.

Finally, Si2 looked at each company's proxy statement for board diversity statements and links between executive pay and sustainability performance. On board diversity, Si2 paid close attention to mentions of race or gender as factors in companies' director nomination processes. And, on executive pay, Si2 defined and studied links in three broad areas: environmental, social and ethics (particularly as it related to fraud).

Major findings: Only 1.4 percent of the S&P companies—seven in total—included a statement on integrated financial and sustainability reporting or declared their annual financial report to also be a sustainability report. All seven used the Global Reporting Initiative (GRI) guidelines as a reference or otherwise complied with one of GRI's most recent reporting frameworks (framework 3.0 or 3.1). The seven are spread across six industry groups: one of the six is a Materials company (**Dow Chemical**); two are Industrial Machinery firms (**Eaton** and **Ingersoll Rand**); one is a Transportation outfit (**Southwest Airlines**); one is a consumer staples manufacturer (**Clorox**); one is a Pharmaceutical company (**Pfizer**); and one is a Utility (**American Electric Power**). By size as measured by revenues, the seven tended to be bigger: two fell in the top revenue quintile of the S&P 500 (Dow Chemical and Pfizer), four in the second highest quintile (AEP, Eaton, Ingersoll Rand and Southwest Airlines) and the other in the fourth quintile (Clorox).

However, integrated reporting in a broader context, beyond the definitions set out in the aspirations of its proponents, is far more common in the United States. Three headlining statistics demonstrate that integrated reporting might not be such a foreign concept for U.S. companies at all:

- 499 companies made at least one sustainability-related disclosure. **Zions Corporation** is the only company not to include any sustainability disclosure across the various reports examined.
- Nearly three quarters (74 percent) of the companies placed a dollar figure on at least one sustainability-related initiative, though they frequently also mentioned other initiatives whose benefits/costs were not quantified.
- 43.4 percent of the companies linked executive compensation to some type of sustainability criteria.

Report Findings in Numbers (S&P 500)

499
The number of companies making a sustainability disclosure in a financial filing or linking financial performance to a sustainability initiative

74
The percentage of companies placing a dollar figure on a sustainability-related topic.

7
Number of companies with an integrated financial and sustainability report

68
Percent mentioning environmental management

43
Percent linking executive pay to sustainability criteria

67
Percent talking about employment

65
Percent with a sustainability-related monetary estimate in a Form 10-K

66
Percent discussing climate change

76
Percent with sustainability reporting

63
Percent disclosing on hazardous waste

19
Percent with a sustainability-related dollar figure in an annual report

54
Percent talking about product formulations

36
Percent using GRI

49
Percent noting waste management initiatives

29
Percent making the financial connection in a sustainability report

39
Percent looking at water use

37
Percent with race and/or gender as criteria for director nominations

21
Percent reviewing ethics

11
Percent placing a dollar figure on hazardous waste

15
Percent discussing human rights

60
Percent disclosing sustainability-related contingencies or liabilities

By issue area, the study identified the following trends:

- **Environmental management (disclosed by 68 percent of companies)—**Disclosures of capital expenditures on environmental controls were the most common. Many companies wrote about reducing overall operational risks—especially those related to employee health and safety and associated losses tied to productivity, settlements and lawsuits—as well as environmental spills and related cleanup and remediation costs, potential fines and lawsuits.

- **Employment (67 percent)—**Most companies noted the importance of attracting and retaining talent. Many described programs to engage employees about business topics, workplace issues and job satisfaction, as well as benefits to attract and retain them, including health plans, retirement accounts, job training and continuing education. Diversity also was mentioned as a key driver of business success. Health and safety risks were common notes too, as were risks related to poor employee relations, strikes and other work stoppages.

- **Climate change (66 percent)—**Climate change frequently was discussed in the context of potential regulation in the United States, as well as being a chief concern among key stakeholders. Many companies identified the energy efficiency of their operations and products as "low hanging fruit," since they found investments in these areas produced returns competitive with other competing demands for capital.

- **Hazardous waste (63 percent)—**Most companies described risks related to hazardous waste in their annual Form 10-K filings; this was the only sustainability topic discussed by a majority of companies in any one specific reporting format. Many of these disclosures related to pending litigation. Risk mitigation efforts, including environmental, health and safety management systems, also factored into disclosures for some of the companies, as did legal requirements on reporting government fines. Hazardous waste also was the area where companies were most likely to place a dollar amount on their activities.

- **Product formulations (54 percent)—**These disclosures included product lifecycle assessments as well as the marketing of green, fair trade or other types of sustainable products. Most disclosures happened in sustainability reports.

- **Waste management (49 percent)—**Companies primarily addressed efforts to reduce packaging and to move manufacturing operations toward producing zero landfill waste.

- **Water use (39 percent)—**Companies viewed water principally as a cost or as a potential risk due to scarcity. Several companies with water-intensive manufacturing or other operational needs had completed or had begun to undertake assessments to review current and future demand, availability and associated operational risks.

- **Ethics (21 percent)—**Fraud and related ethics topics were often discussed in a context of compliance with legal requirements, primarily the U.S. Foreign Corrupt Practices Act (FCPA).

- **Human rights (15 percent)—**The issue rarest to be talked about as a business opportunity, human rights most frequently was described as a reputational risk, specifically with regard to suppliers' use of child or forced labor or operations in conflict zones.

The myriad regulations and rules on disclosing environmental contingencies, liabilities and government fines, as well as climate change and a handful of other sustainability risks, touched upon earlier are driving much of this disclosure. (These are explored further in Part I.) As the bulk of the sustainability-related information offered by companies was a compliance exercise, few gave investors a top-to-bottom assessment of sustainability risks and opportunities and prospects. In fact, the report's data indicate that by not scaling up sustainability initiatives and coordinating them through a unified corporate strategy, many companies may be missing opportunities to improve financial results.

Monetary value—Placing a dollar figure on sustainability risks or opportunities is where tread hits pavement for today's integrated reporting advocates, and, as noted earlier, 74 percent did so at least once across all of the types of documents Si2 examined. However, in the vast majority of cases spanning the sustainability issues companies chose to discuss, specifics were rarely disclosed—even when the data appeared to be readily available. For example, many companies extolled the virtues of energy efficiency programs and their contributions to costs savings, but few gave overall figures on investments in these areas or the actual dollar value of savings or returns on these investments. Other times, the financial metrics given were anecdotal, covering a single project. They almost never encompassed an entire issue area, reporting year or time series, making it difficult to discern how much these efforts contributed to the bottom line.

In other areas, benefits from time or money spent managing sustainability risks or opportunities proved hard to measure for companies. Many of the risks addressed were related to reputation with potential ramifications for overall brand value and potentially sales, as well as a company's ability to attract and retain employees and maintain a license to operate. Notwithstanding the ramifications, few companies had the ability to capture these data and translate them into dollars as bottom-line impacts.

Placement—Companies were more likely to discuss risks related to climate change, environmental management, hazardous waste, employment and ethics in Forms 10-K, while they were more likely to discuss risks tied to water use, waste management, product formulations and human rights in sustainability reports. By wide margins, companies were far more likely to talk about business opportunities related to sustainability issues in sustainability reports. For example, 43.1 percent reviewed opportunities related to climate change in sustainability reports, but only 17.9 percent did so in annual reports and 11.7 percent in Form 10-Ks. When it came to dollars and cents, companies were far more likely to include a monetary estimate related to a sustainability issue in a Form 10-K (65 percent) than an annual report (19 percent) or a sustainability report (29 percent). Where companies disclose information is important to integrated reporting advocates, as Form 10-Ks and annual reports are subject to third-party audits and securities regulations, while sustainability reports are rarely vetted by auditors. In addition, financial analysts are much more apt to review a Form 10-K or annual report and a sustainability report.

10-K filings—In Form 10-Ks, disclosures on hazardous waste were the most common topic among those studied, cited by nearly 58 percent of the firms.

Annual reports—Trends in disclosures of sustainability related risks and opportunities in company "glossy" annual reports followed those of 10-K filings, largely because many companies—68.6 percent—only issued a 10-K filing or only added a short introduction, such as a letter to shareholders from the CEO or board, in their annual reports and attached the entire 10-K filing to the annual report. As such, a substantial portion of the information was identical.

Sustainability reporting—Sustainability reporting platforms (both standalone reports and portions of websites dedicated to sustainability topics) offered the sunniest prospects of all from companies regarding environmental, social and ethical challenges buffeting them. Companies were consistently at least three times more likely to discuss business opportunities born from addressing sustainability challenges in sustainability reporting mechanisms than in 10-K filings and at minimum twice as likely as in annual reports. Overall, 76.4 percent of the S&P 500 had some form of sustainability reporting, and 36 percent referenced the Global Reporting Initiative (GRI) framework.

Proxy statements—37.2 percent of companies stated that gender and/or racial identity was a factor in director nominations. In addition, 43.4 percent of the S&P 500 had linked executive pay to environmental, social and/or ethical issues, such as fraud. Of course, that means 56.6 percent had no sustainability metrics disclosed as inputs into executive compensation.

Organization of this report: The remainder of this report is organized into three sections:

- **Part I** reviews present regulatory requirements for sustainability-related information in financial filings. It also covers pending rulemaking in these areas by the SEC as well as groups' attempts to petition the SEC for further action.
- **Part II** summarizes the efforts of various groups to define and promote integrated reporting in the United States with particular attention paid to the IIRC and SASB.
- **Part III** includes all of the results from Si2's research into the integrated reporting practices of the S&P 500. It ends with expanded sections on results from each of 20 industry sectors studied to offer guidance on which issues seemed to be of particular relevance to each industry. We note that these findings may be particularly relevant today, as efforts are underway to define materiality *vis-a-vis* sustainability issues.

I. Regulatory Requirements

This section briefs readers on the present state of regulatory requirements for integrated financial and sustainability reporting in the United States—what sustainability information investors are likely to see in a Form 10-K or proxy statement when they seek to assess a firm's business and related risks and opportunities. This section does not review other mandatory corporate reporting, such as spill data for the EPA's Toxics Release Inventory, information on workforce composition for the Equal Employment Opportunity Commission (EEOC) in EEO-1 reports, or reports to the U.S. Department of the Treasury on ties to so-called rogue states under U.S. sanctions such as those imposed on Iran—all of which are not easily accessible to investors. As noted earlier, no single U.S. federal government department as reviewed corporate sustainability disclosure in a systematic way to see how it can be leveraged to help government address externalities and for the betterment of society and the environment. As such, the hodgepodge of laws, regulations, rules and guidelines are only getting at a small part of the overall picture integrated reporting backers seek. Although, some believe the materiality standard for regulatory filings to the Securities and Exchange Commission (SEC) can be leveraged to correct these deficiencies. (This prospect is reviewed in Part II.)

Basics: Corporate financial reporting in the United States is governed by a set of accounting standards known as Generally Accepted Accounting Principles (GAAP), which are based on rules and guidelines issued by the Securities and Exchange Commission (SEC) as well as several private, non-profit, accounting standards-setting organizations: the Financial Accounting Standards Board (FASB), the American Institute of Certified Public Accountants (AICPA) and the American Society for Testing and Materials (ASTM).

Regulation S-K of the Securities Exchange Act of 1934 requires U.S. publicly traded companies to file an annual report, or 10-K filing, with the SEC, which includes the company's audited financial statements, description of business lines, organizational structure and history, material risk factors, and a management discussion and analysis (MD&A) about the state of the business. There are a few key requirements for 10-K filings related to sustainability reporting:

- **Business description—**Under item 101 in the 10-K, which includes a description of business operations, companies must disclose federal, state and local laws and regulations that have a material effect on their ability to compete, any material capital and other expenditures the company made during the fiscal year and plans to make in the upcoming fiscal year to comply with these requirements. These include expenditures on environmental controls, management systems and remediation efforts. In defining materiality, Regulation S-K says to include information about which "an average prudent investor ought reasonably to be informed." This often encompasses company's unionization rates, as well as the status of any collective bargaining agreements[1]

- **Legal proceedings—**Under item 103 in the 10-K, companies must disclose legal proceedings arising from planned or existing government actions that could potentially equal or exceed the equivalent of 10 percent of the company's assets or result in a monetary sanction equal to or greater than $100,000. These include environmental fines from the Environmental Protection

[1] See http://www.gpo.gov/fdsys/pkg/CFR-2011-title17-vol2/pdf/CFR-2011-title17-vol2-sec229-101.pdf.

Agency (EPA), as well as health and safety fines from the Department of Labor's Occupational Safety and Health Administration (OSHA).[2]

- **MD&A—**Also under item 103, management is required to discuss the company's financial condition and how any present or pending regulations or legal proceedings of which management is aware could have a material effect on the company's financial performance. These can pertain to environmental, health, safety and other sustainability-related legal requirements, sanctions or lawsuits.[3]

Evolution: The tremendous latitude for interpretation of these rules has been a source of great debate and has prompted further guidance for companies about compliance:

- SEC Release Number 5170 on July 19, 1971 called for disclosure of environmental liabilities and capital requirements, "if material when compliance with statutory requirements with respect to environmental quality e.g., various air, water and other anti-pollution laws, may necessitate significant capital outlays, may materially affect the earning power of the business, or cause material changes in registrant's business done or intended to be done."[4]

- SEC Release Number 5386 on April 20, 1973 required publicly-held corporations to disclose all environmental administrative or judicial proceedings instituted by governmental authorities, regardless of whether the proceedings were "material" to a company's business. The regulations provided, however, that detailed disclosure of each of these governmental enforcement proceedings was unnecessary and could be grouped into discussions of similar proceedings, as long as any one claim did not exceed 10 percent of the company's assets or was otherwise material.[5]

- FASB's FAS 5 from 1975 on accounting for loss contingencies, including environmental liabilities, established three categories of the likelihood of events—probable, reasonably possible, and remote—and says companies only need to accrue charges in their financial statements if the event or action is both "probable" and "reasonably estimable."[6]

- FASB Interpretation 14 or "FIN 14" released in 1976 further refined the guidance to say that in cases where only a range of potential losses can be estimated, the company must accrue a loss for at least the lowest amount in the range.[7]

- SEC Staff Accounting Bulletin Number 92 (SAB 92) from June 1993 underscored that management cannot delay the reporting of liabilities while trying to arrive at a single, reasonable estimate for them, even when such potential liabilities have a very broad range of estimates, and

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[2] See http://www.gpo.gov/fdsys/pkg/CFR-2007-title17-vol2/html/CFR-2007-title17-vol2-sec229-103.htm.
[3] Ibid.
[4] See Release 33-5170 (July 19, 1971) [36 FR 13989].
[5] See Release 33-5386 (April 20, 1973) [38 FR 12100].
[6] See http://www.fasb.org/cs/BlobServer?blobkey=id&blobwhere=1175820910926&blobheader=application%2Fpdf&blobcol=urldata&blobtable=MungoBlobs.
[7] See http://www.fasb.org/cs/BlobServer?blobkey=id&blobwhere=1175820920519&blobheader=application%2Fpdf&blobcol=urldata&blobtable=MungoBlobs.

further states that companies cannot avoid reporting of these liabilities unless the minimum cost with compliance is zero.[8]

- SEC Staff Accounting Bulletin Number 99 (SAB 99) from August 1999 sought to clarify the meaning of materiality for corporate reporting purposes. It says that a matter is material "if there is a substantial likelihood that a reasonable person would consider it important." The SEC said this definition is in substance identical to the formulation used by the courts in interpreting federal securities laws. It noted that in *TSC Industries v. Northway, Inc.*, the Supreme Court held that "a fact is material if there is a substantial likelihood that the…fact would have been viewed by the reasonable investor as having significantly altered the 'total mix' of information made available."[9]

- ASTM's E 2137-01, Standard Guide for Estimating Monetary Costs and Liabilities for Environmental Matters, issued in May 2001, created a hierarchy of cost estimation methods that prioritizes the use of estimates based on their probability of occurring.[10]

- FASB Statement of Financial Accounting Standards Number 143, published in June 2001, addresses cases where regulations or legal proceedings will require the retirement of a tangible asset and the write-downs and costs associated with these facility closures.[11]

- The Sarbanes-Oxley Act of 2002 required companies to establish internal controls to avoid fraud and inaccuracies in the reporting of liabilities related to government regulations and legal proceedings under Regulation S-K.[12]

- FASB Interpretation No. 47 from March 2005 clarified rules regarding the deferment of the reporting of contingent liabilities outlined in FASB's 143 guidance or so-called conditional asset retirements, namely that contingencies must be disclosed promptly in cases where the retirement of the asset and remediation associated with it is inevitable. It summarizes rules for making fair market value estimates for these contingencies. FASB has further refined these definitions in subsequent interpretations and bulletins, including FAS 157 issued in December 2006.[13]

Materiality: A common thread running through the laws, regulations, rules, bulletins and statements governing financial reporting for publicly traded companies in the United States is the central question: What does a reasonable investor need to know? As noted above, defining materiality around a reasonable investor's information needs is referenced in:

- **Regulation S-K**, which says that "matters about which an average prudent investor ought reasonably to be informed," is the test.[14]

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[8] GAO. 1993. "Environmental Liability: Property and Casualty Insurer Disclosure of Environmental Liabilities." RCED-93-108. Washington, D.C. June 2, 1993.
[9] See http://www.sec.gov/interps/account/sab99.htm#foot4.
[10] See http://www.astm.org/Standards/E2137.htm.
[11] See http://www.fasb.org/cs/BlobServer?blobkey=id&blobwhere=1175820921201&blobheader=application%2Fpdf&blobcol=urldata&blobtable=MungoBlobs.
[12] See http://uscode.house.gov/download/pls/15C98.txt.
[13] See http://www.fasb.org/news/nr033005.shtml.
[14] See http://www.gpo.gov/fdsys/pkg/CFR-2011-title17-vol2/pdf/CFR-2011-title17-vol2-sec229-101.pdf.

- **SEC Staff Accounting Bulletin Number 99 (SAB 99)**, which defines materiality as, "If there is a substantial likelihood that a reasonable person would consider it important."[15]

At times, the SEC and others have put numbers to this definition. As noted above, Regulation S-K dictates that companies disclose legal proceedings arising from planned or existing government actions that could potentially equal or exceed the equivalent of 10 percent of the company's assets or result in a fine from a regulator equal to or greater than $100,000.[16]The accounting standards organizations also have referenced a five percent threshold as a guiding principle.

However, at the end of the day, there is no clear litmus test for companies to follow in disclosing "material" risks, liabilities or contingencies. The SEC staff guidance says as much in SAB 99:

> The staff is aware that certain registrants, over time, have developed quantitative thresholds as "rules of thumb" to assist in the preparation of their financial statements, and that auditors also have used these thresholds in their evaluation of whether items might be considered material to users of a registrant's financial statements. One rule of thumb in particular suggests that the misstatement or omission of an item that falls under a 5 percent threshold is not material in the absence of particularly egregious circumstances, such as self-dealing or misappropriation by senior management. The staff reminds registrants and the auditors of their financial statements that exclusive reliance on this or any percentage or numerical threshold has no basis in the accounting literature or the law.

The staff further clarifies that while the use of a five percent threshold might be a good "rule of thumb," "Materiality concerns the significance of an item to users of a registrant's financial statements." It adds, "A matter is material if there is a substantial likelihood that a reasonable person would consider it important."

The SEC staff points to FASB's Statement of Financial Accounting Concepts Number 2, in which FASB said the concept of materiality should be defined as follows:

> The omission or misstatement of an item in a financial report is material if, in the light of surrounding circumstances, the magnitude of the item is such that it is probable that the judgment of a reasonable person relying upon the report would have been changed or influenced by the inclusion or correction of the item.

This definition of materiality in the context of a "total mix" of information is one the SEC returns to time and time again. Its guidance in SAB 99 and subsequent interpretive guidance releases discusses "surrounding circumstances" and "factual context." It concludes, "The shorthand in the accounting and auditing literature for this analysis is that financial management and the auditor must consider both quantitative and qualitative factors in assessing an item's materiality."

As the SEC pointed out in SAB 99, FASB concurs and "has long emphasized that materiality cannot be reduced to a numerical formula." In its Concepts Statement Number 2, FASB rejects the concept of quantitative materiality guidelines, saying that such an approach represents only a "minority view." Rather, it said, "The predominant view is that materiality judgments can properly be made only by those who have all the facts." In coming to this conclusion, FASB took account of several contradictory studies of the day and shunned formulaic approaches such as strict thresholds of five to ten percent of net in-

[15] See http://www.sec.gov/interps/account/sab99.htm#foot4.
[16] See http://www.gpo.gov/fdsys/pkg/CFR-2007-title17-vol2/html/CFR-2007-title17-vol2-sec229-103.htm.

come, because “magnitude by itself, without regard to the nature of the item and the circumstances in which the judgment has to be made, will not generally be a sufficient basis for a materiality judgment.”

Rather, FASB said that managements and their accountants and auditors needed to ask more fundamental questions when making materiality decisions, such as whether a potential misstatement:

- “Arises from an item capable of precise measurement…or an estimate and, if so, the degree of imprecision inherent in the estimate.”
- “Masks a change in earnings or other trends.”
- “Hides a failure to meet analysts’ consensus expectations for the enterprise changes a loss into income or vice versa.”
- “Concerns a segment or other portion of the registrant’s business that has been identified as playing a significant role in the registrant’s operations or profitability.”
- “Affects the registrant's compliance with regulatory requirements…or with loan covenants or other contractual requirements.”
- “Has the effect of increasing management's compensation—for example, by satisfying requirements for the award of bonuses or other forms of incentive compensation.”
- “Involves concealment of an unlawful transaction.”

The discussion of materiality holds particular relevance to interpretive guidance issued by the SEC on climate change, as well as to rules promulgated by the SEC under the Dodd-Frank financial reform law (reviewed below). However, they also hold significance to sustainable investors’ contention that the SEC needs to look at sustainability issues more broadly and issue guidance to companies on ways to report useful information to investors.

Climate change: In January 2010, the SEC issued interpretive guidance on climate disclosure, responding in part to a series of petitions submitted since 2007 by the Investor Network on Climate Risk (INCR), a project of the Ceres coalition, and the National Resources Defense Council (NRDC).[17] The SEC said present rules on materiality and the context of the global climate change debate mean that companies must disclose in 10-K filings three types of risks:

- Regulatory, due to changing regulations in the United States and elsewhere;
- Commercial, driven by shifting demand for products and services; and
- Physical, resulting from changes in the physical environment such as changes in weather patterns and rises in sea level.

As the notice from the SEC was interpretive guidance—meaning the SEC’s interpretation of present requirements and not a new rule—it was effective immediately.

[17] See http://www.sec.gov/rules/interp/2010/33-9106.pdf.

While the guidance was directed at climate change disclosure, the Commission clearly signaled at the time that it might not stop there. It made specific mention of the Global Reporting Initiative (GRI), saying that information voluntarily provided by companies using the GRI framework may become mandatory (emphasis added), concluding that GRI and other reporting methods:

> Can provide important information to investors outside of disclosure documents filed with the Commission. Although much of this reporting is provided voluntarily, registrants should be aware that **some of the information they may be reporting pursuant to these mechanisms also may be required to be disclosed in filings made with the Commission pursuant to existing disclosure requirements.**

Dodd-Frank: The SEC did not have long to weigh whether to act on broader sustainability disclosure in financial filings before legislative action forced it to act. President Barack Obama signed the *Dodd-Frank Wall Street Reform and Consumer Protection Act* into law on July 21, 2010.[18] The bill included several new disclosures to address various corporate responsibility issues that required SEC rulemaking: conflict minerals, mine safety and payments to host governments by resource extraction companies. The mine safety disclosures only pertain to operators of mines, and the payments to host governments provision only holds relevance for companies that explore for, or develop, oil, gas or minerals. However, the conflict minerals provisions has far wider applicability, as many types of companies—manufacturers and sellers of electronics, household appliances, automobiles, aircraft and industrial equipment—all rely upon the types of minerals covered by the requirements. Dodd-Frank also included a new pay disparity disclosure, but the SEC has yet to act on this requirement or other new requirements about compensation committees; both provisions still await final rules and have prompted substantial push-back from businesses.

Conflict minerals— Section 1502 of Dodd-Frank addresses the ongoing conflict in the Democratic Republic of the Congo (DRC) and companies' ties both directly and through supply chains to minerals mined in the DRC that fuel the region's conflict. It tasked the SEC with implementing a rule that would require companies to disclose annually whether any conflict minerals that are necessary to the functionality or production of one of their products originated in the DRC or an adjoining country, as defined the U.S. Department of State. If there are such ties, companies must report on how they are exercising due diligence on the source and chain of custody of those minerals and include an independent audit. The minerals covered by the law are: "columbite-tantalite," also known as coltan (the metal ore from which tantalum is extracted); "cassiterite" (the metal ore from which tin is extracted); "gold;" "wolframite" (the metal ore from which tungsten is extracted); "or their derivatives;" or "any other mineral or its derivatives determined by the Secretary of State to be financing conflict in the Democratic Republic of the Congo or an adjoining country."

The SEC issued its rule on conflict minerals on August 22, 2012, and it divided requirements for corporate issuers into three steps:

- Vet the company's supply chain to see if the minerals in question are used in the production of the company's products.
- If so, engage in a determination of the country of origin for those minerals to see if they could have come from the DRC or surrounding countries that are part of the conflict zone. The results of this exercise must be posted on the company's website and referenced in an annual securities

[18] See http://www.sec.gov/about/laws/wallstreetreform-cpa.pdf.

filing on Form SD, whether or not a definitive link to the DRC or the conflict zone is made, including cases where scrap or recycled metal is sourced.

- Finally, if the company finds that minerals it is sourcing came from the conflict zone, or if it cannot determine country of origin, it must file a "Conflict Minerals Report." The report must explain how it has exercised due diligence to establish a chain of custody, to certify this process by a third-party auditor, describe its products containing—potentially or definitively—conflict minerals, or definitively declare that its products are "DRC conflict free."[19]

The key to companies in the certification process are smelters, as only a handful process minerals from the conflict zone. The Organization for Economic Co-operation and Development (OECD) also has set forth procedures for establishing a chain of custody and declaring minerals conflict free, although they are still being tested. The rule came into force in 2013 and the first specialized reports must be filed no later than May 31, 2014. There is an exemption for small-cap companies until 2016, which was widely criticized by supporters of the law, although its proponents are happy that companies of all sizes are covered by the final rule and that there were no other *de minimis* exemptions for small buyers of these materials.[20] In all cases, companies must disclose the names and locations of the facilities used to mine and to process minerals in products if there is a possibility of links to the conflict, as well as steps the company is taking to ensure future sourcing does not include conflict minerals.

The National Association of Manufacturers (NAM) and the U.S. Chamber of Commerce initiated a legal challenge against the SEC over the conflict minerals disclosure rule in October 2012. The two organizations filed a petition for a stay to be placed on the rule until a determination can be made on whether the SEC made a true assessment of the costs of the new rule for issuers and the value for shareholders. The SEC estimated the rule would cost companies $3 to $4 billion up front, plus more than $200 million a year thereafter to comply, and would be applicable to approximately 6,000 U.S. and foreign companies. NAM contends that the SEC has grossly underestimated implementation costs, which it pegs at $9 to $16 billion, three to four times the SEC's estimate. NAM also says the SEC's new rule will do little to achieve its objective of eliminating risks related to the sourcing of conflict minerals for shareholders.[21] Broken down by company, the cost estimates between the SEC and NAM range from $500,000 to $2.7 million up front and about $33,333 annually thereafter on average.

A statement issued by the two plaintiffs, as well as the Business Roundtable, says:

> The business community understands the seriousness of the strife occurring in the Democratic Republic of Congo and the need to implement solutions to bring an end to the violence. However, while well-intentioned, the SEC's final rule on conflict minerals is not an effective approach to this complex issue. Our organizations suggested constructive changes to earlier proposals to make a final rule workable. However, the final conflict mineral rule imposes an unworkable, overly broad and burdensome system that will undermine jobs and growth and may not achieve Congress's overall objectives.[22]

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[19] See http://www.sec.gov/rules/final/2012/34-67716.pdf.
[20] The groups' criticisms can be viewed at http://www.sourcingnetwork.org/sec.
[21] See http://www.nam.org/Issues/Trade/Conflict-Minerals.aspx.
[22] Mont, Joe for *Compliance Week*. (October 22, 2012). "U.S. Chamber, NAM Take Legal Action Against Conflict Minerals Rule." Retrieved from http://www.complianceweek.com/us-chamber-nam-take-legal-action-against-conflict-minerals-rule/article/264726/.

The lower cost projections from the SEC are based on civil society organizations' findings that most of the minerals from the conflict zone are funneled through a very small number of smelters. These smelter facilities are pinch points in the supply chain where advocates of disclosure argue companies can exercise control to ensure minerals are not sourced from conflict areas, they contend. The court began hearing arguments in January.

Mine safety—The SEC's final rule on Section 1503 of Dodd-Frank was issued on December 21, 2011, and came into effect on January 27, 2012.[23] It adds a "Mine Safety Disclosures" exhibit to annual report filings Form 10-K, 20-F and 40-F, as well as quarterly Form 10-Q. The new disclosure requires companies to include a statement whether it or one of its subsidiaries is an operator of a coal or other mine covered by the Federal Mine Safety and Health Act of 1977. If so, the issuer must add information on health and safety violations, orders and citations, related assessments and legal actions and mining-related fatalities. During the drafting and comment period for the rule, the SEC staff estimated that only about 100 companies filing Form 10-K would need to provide the new disclosures. In this study, 5.2 percent of the companies had mine safety disclosures, or about 26 companies of the S&P 500.

Payments to governments by resource extractors— Section 1504 of Dodd-Frank aims to combat corruption and related investment risks—such as expropriation of funds, disruption of operations related to social unrest, pressure from corrupt foreign officials, tax and regulatory risks or harm to companies' local or global reputation—through revenue transparency. Section 1504 requires companies engaged in the commercial development of oil, natural gas, or minerals to disclose in their annual reports payments made to the United States or a foreign government for rights to explore for or develop oil, gas or minerals.

The SEC issued its final rule on 1504 on the same day it issued the conflict minerals requirements—August 22, 2012.[24] The final rule applies to U.S. and foreign companies already required to file annual reports with the SEC "that are engaged in the commercial development of oil, natural gas, or minerals," regardless of size or scope of oil, gas or minerals activities. The final rule also contains no exemptions for cases where foreign law prohibits the disclosure or a company has confidentiality agreement barring the release of this information. The rule defines commercial development to include exploration, extraction, processing, export, or the acquisition of a license for any of these activities, and the payments covered include taxes, royalties, licensing and other fees, production entitlements and bonuses, as well as dividends and payments for infrastructure improvements. The threshold for reporting is all payments (or series of payments covering a single item) equal to or greater than $100,000 and includes all company subsidiaries and affiliates, taking into account proportionality for ownership.

The disclosure must include the:

- "Total amounts of the payments, by category;
- "Currency used to make the payments;
- "Financial period in which the payments were made;

[23] See http://www.sec.gov/news/press/2011/2011-273.htm.
[24] See http://www.sec.gov/rules/final/2012/34-67717.pdf.

- "Business segment of the resource extraction issuer that made the payments; the government that received the payments, and the country in which the government is located; and the project of the resource extraction issuer to which the payments relate…"

- "Type and total amount of payments made for each project and the type and total amount of payments made to each government in interactive data format."

The SEC decided this disclosure should take place in an exhibit attached to annual report Form SD, not in the 10-K, 20-F or 40-F as the proponents of the rule had originally envisioned. The information also must be coded using XBRL to facilitate standardized analysis and submitted no later than 150 days after the end of the company's most recent fiscal year. Companies must begin to comply with the first fiscal year ending on or after September 30, 2013.

Pay disparity—Section 953(b) of Dodd-Frank tasked the SEC with developing a new rule to require corporations to disclose in their proxy statements as part of their executive compensation disclosure the:

- "Median of the annual total compensation of all employees, except the CEO (or any equivalent position)";

- The CEO's total annual compensation; and

- The ratio of these two figures.

The SEC has not published draft rules on this requirement, and it has not posted a timetable for doing so. There has been substantial resistance from the business community to the requirement.

Compensation committees—Section 952 of Dodd-Frank requires compensation committees to be composed of independent directors, given authority to retain consultants and advisers, and have compensation consultants free of conflicts of interest. The SEC drafted new rules on this topic and is awaiting implementation guidelines from the exchanges, which should be published this year.

Board diversity: In December 2009, the SEC approved a rule on *Proxy Disclosure Enhancements*, which went into effect in February 2010.[25] Among other features, the new rule includes the SEC's first requirements for companies to report on board diversity. In particular, it calls on companies to disclose in their proxy statements:

- *Whether diversity is a factor* in considering candidates for nomination to the board of directors;

- *How diversity is considered* in that process, including any written policies addressing board diversity; and

- How the company *assesses the effectiveness* of its policy for considering diversity.

The SEC's rule does not define what "diversity" means for purposes of proxy statement disclosures. Some companies focus on describing diversity of backgrounds and skills of directors, while others include race, gender and ethnicity.

[25] See http://www.sec.gov/rules/final/2009/33-9089.pdf.

SEC Commissioner Luis A. Aguilar, a strong supporter within the SEC for the board diversity disclosure requirements, said during a September 10, 2009, speech at Stanford Law School titled *Diversity in the Boardroom Yields Dividends,* "Nonetheless, the truth remains that there is a persistent lack of diversity in corporate boardrooms across this country—women and minorities remain woefully underrepresented.'' He added, "In today's environment, diversity in the boardroom is a business necessity and public companies, including mutual funds and other investment companies, would be well served by implementing practices to increase corporate board diversification.''[26]

Executive compensation: The SEC adopted and significantly revised rules for executive compensation disclosure on July 26, 2006, in a release titled *Executive Compensation and Related Person Disclosure*, which went into effect in spring 2007.[27] The revised rules mandate disclosure about the compensation of the CEO and the CFO, as well as the next three most highly compensated executives. Under the revised rules, the amount of compensation used to calculate the three highest paid officers is based on all compensation components, including option grants and other types of awards, not just salary and bonus. Other new facets of the revised rules were a new tabular format for compensation, a dedicated Compensation Discussion & Analysis (CD&A) section, disclosure of post-termination, including retirement, and change-in-control payments, information on the compensation committee and director independence on the committee, director compensation disclosure in a similar summary table to the executive compensation table, management and director security ownership, and new requirements and guidance on disclosures of stock option grants and option grant programs.

The CD&A section, modeled after the MD&A section of the 10-K, is designed to give investors and overview of the company's compensation practices and principles. In this section, companies must explain:

- "What are the objectives of the company's compensation programs?
- "What is the compensation program designed to reward?
- "What is each element of compensation?
- "Why does the company choose to pay each element?
- "How does the company determine the amount (and, where applicable, the formula) for each element?
- "How do each element and the company's decisions regarding that element fit into the company's overall compensation objectives and affect decisions regarding other elements?"

Mandatory sustainability reporting: In July 2009, US SIF, the Forum for Sustainable and Responsible Investment, sent a letter to the SEC asking it to begin a process to review the prospects for mandatory sustainability reporting in the MD&A section of the 10-K.[28] The SEC has yet to act on this request but the proposal sets out one possible course of action. (This effort is covered in more depth in the next section on movements.)

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[26] Aguilar, Luis A. (September 10, 2009). *Diversity in the Boardroom Yields Dividends.*A speech at Stanford Law School.Retrieved from http://www.sec.gov/news/speech/2009/spch091009laa.htm.

[27] See http://www.sec.gov/rules/final/2006/33-8732a.pdf.

[28] See http://www.ussif.org/documents/ESG_Letter_to_SEC.pdf.

In addition, the California Public Employees' Retirement System (CalPERS), together with 14 public pension funds, plan sponsors and other institutional investors that together have more than $1.3 trillion in assets under management, submitted a letter to the SEC in February 2012 recommending that the commission address six priorities over the next year to reinforce investor protections. One of the priorities is integrated reporting. In addition to refining guidance on refining existing requirements for companies to disclose board diversity policies and risks related to climate change, the investors also pressed the commission to look at how other relevant environmental, social and governance information can be "integrated into financial reporting frameworks."[29]

Political contributions: On December 21, 2012 the SEC announced that a proposed rule change to "require that public companies provide disclosure to shareholders regarding the use of corporate resources for political activities" was on its regulatory agenda for consideration. Proponents of increased disclosure have urged the SEC to move swiftly and the SEC has indicated it may take action this year..

The Committee on Disclosure of Corporate Political Spending, a bipartisan group of leading law school professors, submitted the rulemaking petition calling for such disclosure on August 3, 2011.[30] So far, the petition has received nearly 500,000 comments—a record for any petition, although many have been form letters encouraged by groups participating in what is known as the Corporate Reform tion.[31]The Committee opined that increased disclosure of corporate political contributions is "necessary for corporate accountability and oversight mechanisms to work." In particular, it cited the *Citizens United v. Federal Election Commission (FEC)* decision and the U.S. Supreme Court's opinion that shareholders with adequate information about corporate political activity could adequately decide if the corporation was acting in the interest of making profits.

In its January 3, 2013 comment, the U.S. Chamber of Commerce argued that, in addition to legal and constitutional reasons for rejection, the proposed rule would not provide any substantial benefits to shareholders while imposing substantial costs on public companies.[32] A vigorous ongoing debate about the merits of the proposed rulemaking is occurring, even though the proposed rule has yet to be issued.

[29] See http://www.calpers.ca.gov/eip-docs/about/press/news/financial-market-reform.pdf.
[30] See http://www.sec.gov/rules/petitions/2011/petn4-637.pdf.
[31] See http://www.coporatereformcoalition.org. Si2 has provided research to the coalition.
[32] See http://www.sec.gov/comments/4-637/4637-1198.pdf.

II. Definitions, Movements and Possibilities

Defining integrated reporting raises five overarching questions for its advocates:

- **Location—**Where should integrated reporting take place? In the U.S. context, should it be part of a glossy annual report, Form 10-K or both? Would this information detract from key financial data investors review in financial reporting?

- **Materiality—**What is material and should be reported on sustainability issues in the context of financial reporting?

- **Value—**How do sustainability initiatives generate value for companies and their shareholders, and how is this information best communicated to investors?

- **Audience—**if integrated reporting becomes the principal vehicle for sustainability reporting, what happens to all of the voluntary information companies presently disclose to satisfy employees, civil society organizations, communities and other key stakeholders? Could integrated reporting result in less sustainability information?

- **Regulation—**Given existing materiality standards enshrined in U.S. regulations, are any new rules needed in the United States to make integrated reporting a reality? If so, what remedies could be sought?

This section looks at the roots of the arguments for integrated reporting in the United States. It also summarizes the viewpoints of the principal proponents of integrated reporting and presents some cautionary notes. Finally, it reviews the possibilities for U.S. integrated reporting in the years ahead.

Roots: The catchphrase "integrated reporting" is relatively new, but the push for sustainability information in securities filings stretches back several decades in the United States. As early as 1971, the Natural Resources Defense Council (NRDC), an environmental group with more than one million members staffed with scientists, lawyers and other issue experts, petitioned the SEC to adopt detailed environmental disclosure rules. The move helped push the SEC to issue its rules about reporting environmental contingencies and liabilities in 1971 and 1973, and the NRDC continued to press for more comprehensive environmental reporting throughout the 1970s and 1980s. The group's 1981 petition said the National Environmental Protection Act of 1970 required the SEC to establish broad rules for corporations to report their environmental impacts, an argument the NRDC also used in lawsuits it filed against the SEC.[33] (The SEC responses, far more limited than what the NRDC sought, were incorporated into its release numbers 5170 and 5386 described above in Part I.)

The NRDC later worked with Ceres and a coalition of investors to ask the SEC beginning in 2006 to issue interpretive guidance on climate change disclosures.[34] After the SEC declined to respond to several letters with the backing of investors with more than $1 trillion in assets, the groups filed a petition with the

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[33] See https://bulk.resource.org/courts.gov/c/F2/606/606.F2d.1031.77-1761.html for a list of NRDC actions with regard to the SEC and environmental disclosure, associated lawsuits, and SEC responses.
[34] See http://www.ceres.org/incr/news/investors-call-on-sec-to-require-corporate-disclosure-on-climate-change.

SEC in 2007.[35] They followed up with a supplemental petition in 2009.[36] As discussed in Part I, the SEC issued interpretive guidance on climate change disclosures in January 2010, requiring reporting on material regulatory, commercial and physical risks.

US SIF, the Forum for Sustainable and Responsible Investment, then called the Social Investment Forum, sent a letter to the SEC in July 2009 asking that it begin a rulemaking process aimed at requiring companies "to report annually on a comprehensive, uniform set of sustainability indicators comprised of both universally applicable and industry-specific components" and suggested that the SEC define this "as the highest level of the current version of the Global Reporting Initiative (GRI) reporting guidelines." The letter also asked the SEC "to issue interpretative guidance to clarify that companies are required to disclose short- and long-term sustainability risks in the Management Discussion and Analysis section of the 10-K (MD&A)."[37] The SEC met with members of US SIF on this topic in 2009 and 2010 but did not take action on US SIF's full set of proposals, although it issued its interpretive guidance on climate change in 2010.

However, in response to the rulemaking petition from the Committee on Disclosure of Political Spending that so far has been supported by a record of more than half a million comments, the SEC announced on December 21, 2012 that it will consider the topic in 2013.[38] The rulemaking request has come following widespread public concern about the *Citizens United v. Federal Election Commission (FEC)* Supreme Court decision ruling in January 2010 that established corporations have First Amendment rights of free speech and association to make unfettered political contributions. Justice Kennedy wrote in the majority opinion that the court firmly upheld the constitutionality of disclosure requirements for corporations:

> Prompt disclosure of expenditures can provide shareholders and citizens with the information needed to hold corporations and elected officials accountable for their positions and supporters. Shareholders can determine whether their corporation's political speech advances the corporation's interest in making profits, and citizens can see whether elected officials are 'in the pocket' of so-called moneyed interests.[39]

As noted earlier in Section 1, 14 public pension funds, plan sponsors, and other institutional investors with more than $1.3 trillion in assets under management submitted a letter to the SEC in February 2012 recommending that the commission address six priorities over the next year to reinforce investor protections. The priorities include reviving an Investor Advisory Committee, instituting universal access for investors to the proxy statement for nominating board candidates, adopting the remaining executive pay requirements of Dodd-Frank, and continuing to work toward international accounting standards. The investors also said the SEC should refine its guidance on existing requirements for disclosure of board diversity policies and risks related to climate change. They also said the SEC should examine how other relevant environmental, social and governance information can be "integrated into financial reporting frameworks."[40]

Integrated reporting also has gotten play in academic circles. Harvard Business School Professor Robert G. Eccles and Michael P. Krzus, then a partner with Grant Thorton, authored *One Report: Integrated Reporting for a Sustainable Strategy* in 2010. It helped to spark a debate among sustainability reporting

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[35] See http://www.sec.gov/rules/petitions/2007/petn4-547.pdf.
[36] See http://www.ceres.org/files/Supplemental_Climate_Risk_Petition_Nov_23_2009.pdf/at_download/file.
[37] See http://www.ussif.org/documents/ESG_Letter_to_SEC.pdf.
[38] See http://www.sec.gov/rules/petitions/2011/petn4-637.pdf.
[39] See http://www.supremecourt.gov/opinions/09pdf/08-205.pdf.
[40] See http://www.calpers.ca.gov/eip-docs/about/press/news/financial-market-reform.pdf.

champions in the United States and around the world about the concept of integrated reporting.[41] At the time, the two defined integrated reporting in two ways:

> The first and most narrow meaning is a single document, either in paper or perhaps electronically provided as a PDF file. The narrow meaning of One Report should not be lightly dismissed. It is a way of communicating to all stakeholders that the company is taking a holistic view of their interests, both as they complement each other and as they compete against each other.
>
> The second and broader meaning is reporting financial and non-financial information in such a way that shows their impact on each other. Here companies can leverage the capabilities of the Internet and its Web 2.0 tools and technologies. Clearly, the degree of integration can vary enormously, so One Report is not simply the decision to provide such a report but also a journey in which a company commits to a path of continuous improvement in the degree of integration in its external reporting.

The first concept speaks to the inclusion of sustainability information in mainstream reports to investors, such as Form 10-K filings and annual reports. However, the second concept emphasizes quantifying, when possible, or otherwise describing the material risks and opportunities to sustainability in a way that is central to a company's long-term financial prospects and business plans. In this way, integrated reporting has become much more about how sustainability information can be linked to creating value for investors, rather than simply slapping additional disclosures onto a securities filing.

Eccles and Krzus went on to host several forums at Harvard University in 2010 and 2011 on integrated reporting and took part in the deliberations hosted by the Prince of Wales in the United Kingdom that led to the formation of the International Integrated Reporting Council (IIRC). Eccles also has been involved in the founding and sits on the board of Sustainability Accounting Standards Board (SASB). (Both organizations are described in greater depth later in this section.) Si2 interviewed both for this report to see how their views of integrated reporting have evolved. Eccles said he continues to view integrated reporting as a "single document with material information on financial and non-financial performance and showing the interrelationships between the two, including potential synergies and tradeoffs." Similarly, Krzus said:

> Integrated reporting explains the relationships between financial and nonfinancial (ESG) performance. Integrated reporting is the foundation for management's ability to develop an understanding that business models and corporate decision-making should reflect the complex and inextricably linked relationships between the economic, governance, environmental, and social issues. The integrated reporting process also helps companies learn to balance the imperative for long-term viability—of the company and the world it relies on to create economic value—with the demands for short-term competitiveness and profitability.

Definitions: In defining integrated reporting, its champions have focused on shaping the content or the "what" as much as advocating the appropriate places for this disclosure to happen or the "where." Both are central to further refining the concept.

Location—The US SIF letter to the SEC and the earlier petitions by the NRDC and Ceres on climate change, as well as the petition on political contributions disclosures, all raise a central question to defining integrated reporting, namely the where. The aim largely is to get pertinent sustainability information in front of investors in documents they traditionally review—annual reports and securities

[41] Eccles, Robert G. and Krzus, Michael P. for John Wile & Sons, Inc. (2010). *One Report: Integrated Reporting for a Sustainable Strategy*. Hoboken, New Jersey.

filings. Both the US SIF letter and the petitions from the NRDC and Ceres focus on the Form 10-K annual report. The location of these disclosures, sustainable and responsible investors argue, is important for another reason beyond broadening the audience for sustainability information to more mainstream investors: It makes the information auditable and arguably more reliable than present sustainability reporting practices, which generally do not include auditing or third-party vetting.

The newly-formed SASB, which is vetting what is material to each industry and forming reporting standards for the United States, also is focused on Form 10-K for several of the same reasons. In an interview with Si2, SASB Executive Director Jean Rogers explained:

> The first step towards integrated reporting is the integration of material sustainability information into the Form 10-K, in a decision-useful format. SASB standards are designed for companies to disclose their material environmental and social performance alongside their financial performance.

Materiality—Most proponents for mandatory sustainability reporting in financial filings—whether relating to environmental liabilities and contingencies, climate change risks, political contributions or more comprehensive sustainability disclosures—reference materiality as central to their arguments and definitions for disclosure thresholds. Materiality has long been framed by what a reasonable investor would want to know. But reasonable investors of varying stripes would like to see different information, and, to this extent, materiality lies in the eye of the beholder. This fluid definition coupled with a lack of comprehensive guidance on reporting material sustainability risks and opportunities has left corporations in part perplexed, and regulators, including the SEC, slow to take up the challenge since they lack resources and expertise in the area.

To address these obstacles, various groups have issued or are in the process of forming guidance on this very question of materiality. The Global Reporting Initiative (GRI), which continues to be the most widely used sustainability reporting standard, was the first to broadly define a materiality standard for sustainability reporting. In its latest, third-generation guidelines, GRI defines materiality as information that reflects an organization's "significant economic, environmental, and social impacts, or that would substantively influence the assessments and decisions of stakeholders." It emphasizes that in sustainability reporting, materiality:

> is not limited only to those sustainability topics that have a significant financial impact on the organization. Determining materiality for a sustainability report also includes considering economic, environmental, and social impacts that cross a threshold in affecting the ability to meet the needs of the present without compromising the needs of future generations. These material issues will often have a significant financial impact in the near-term or long-term on an organization. They will therefore also be relevant for stakeholders who focus strictly on the financial condition of an organization.[42]

Meanwhile, the IIRC, which is developing a pilot framework for integrated reporting, views materiality through the lens of creating value. It defines an integrated report as one that brings together:

> The material information about an organization's strategy, governance, performance and prospects in a way that reflects the commercial, social and environmental context within which it operates. It provides a clear and concise representation of how an organization demonstrates stewardship and how it creates value, now and in the future. Integrated Reporting combines the most material elements of information

[42] See https://www.globalreporting.org/resourcelibrary/G3-Guidelines-Incl-Technical-Protocol.pdf.

> currently reported in separate reporting strands (financial, management commentary, governance and remuneration, and sustainability) in a coherent whole, and importantly:
>
> - shows the connectivity between them; and
> - explains how they affect the ability of an organization to create and sustain value in the short, medium and long term.[43]

Value—This question of generating value also plays into SASB's definition as noted by its executive director, Jean Rogers:

> Integrated reporting arises from an integrated business strategy that acknowledges all forms of capital that are essential for long term value creation. It enables a complete view of financial and sustainability performance through disclosure of the material risks and opportunities that are facing a business, for the benefit of management, investors, and the public.

Audience—The IIRC stresses that while an integrated reporting framework will benefit a broad range of stakeholders, it is "principally aimed at providers of financial capital." SASB too is focused on investors' needs. However, the issues raised by sustainability reporting more broadly and even integrated reporting in the more granular sense speak to externalities—defined by economists as a cost or benefit resulting from an activity or transaction and affecting an otherwise uninvolved party, who did not choose to incur that cost or benefit. These include negative externalities, such as pollution, natural resource depletion and urban sprawl, as well as positive externalities such as job creation, community development and cures for diseases. Sustainability reporting and the work of GRI has sought to address material aspects of corporate activities that affect all types of stakeholders, and some of these might not be of great import to investors. If integrated reporting becomes the sole form of reporting for companies, some worry that other information won through GRI and other sustainability disclosure initiatives that is desired by other stakeholders, including workers, community members, government officials and representatives of civil society organizations, might be lost in the mix.

Eccles in an interview with Si2 sought to assuage these fears, noting that company officials who saw value in the exercise of producing a GRI-style report to begin with would continue to see a function for it going forward, as it could help communicate aspects of a company's policies and practices to key groups in a manner that helps manage stakeholder relations. And, while these topics might not immediately be on the radar of or of interest to investors, they continue to help companies maintain a license to operate and good relations with groups important to their ongoing operations and expansion plans. Nonetheless, sustainable and responsible investors and civil society organizations continue to raise these concerns, as discussed later in this section, and many continue to advocate content be guided through GRI's existing framework.

Regulation—With such broad definitions for materiality in the United States, many are asking the question why more companies are not reporting sustainability risks to investors already. SASB is among them. Its executive director, Rogers, believes the central reason for the dearth and, at times, confusing and conflicting reporting from companies is the lack of any standards. That is why SASB is seeking to review what is material for each industry sector and to develop standards with a wide range of financial and industry professionals to offer guidance to companies. Rogers argues that further legislation and regulations in the United States are not needed to realize integrated reporting in the United States, but much work is required in defining and refining usable standards for companies to emulate and for the SEC to bless as standard practice. Nonetheless, if past precedent is any indication, rulemak-

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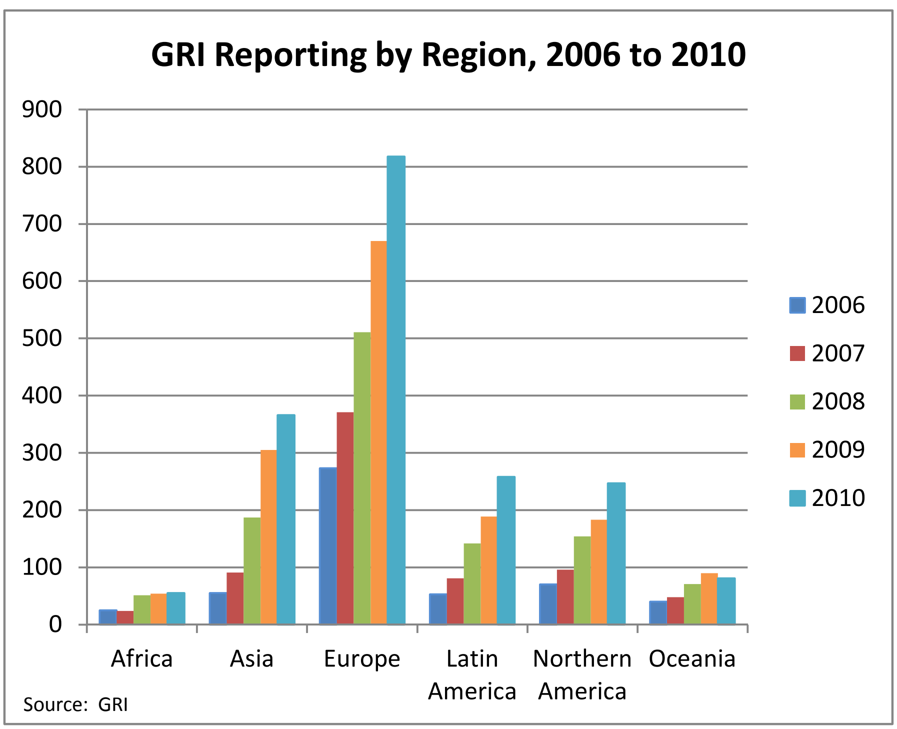
[43] See http://www.theiirc.org/about/.

ing from the SEC might be a possible hurdle, and with it significant legal challenges from industry groups are likely to come, as have with recent rulemaking surrounding other sustainability issues noted earlier in this report.

Organizations and standards: Sustainability advocates have submitted hundreds of shareholder proposals over the years, ranging from calls for disclosure of ties to South Africa during the anti-Apartheid movement of the 1970s to broader calls for sustainability reporting today. Many requests now ask for compliance with the GRI's guidelines, but a number focus on answering the Carbon Disclosure Project (CDP) annual questionnaire on climate change. CDP has been an important driver for defining sustainability reporting and making the connection to financial performance. More recently, the IIRC has sought to more narrowly define the aspects of sustainability reporting most pertinent to investors and financial disclosures and has launched a draft framework on these concepts. Finally, SASB was launched in 2012 with the mission of defining for corporate reporters in the United States what kinds of sustainability information is material and how it should be reported in Form 10-Ks. These key organizations in the movement toward greater sustainability and integrated reporting are described in greater detail below.

GRI—The Global Reporting Initiative, an international organization with headquarters in Amsterdam, is the most commonly used framework by companies and other organizations to produce sustainability reports. GRI started as a project of the Ceres coalition in Boston in 1997. After the United Nations Environmental Program (UNEP) joined the initiative as a partner in 1999, GRI released its first set of reporting guidelines. The organization then began a global outreach program to recruit additional supporters and established itself as an independent institution in 2001. It moved to Amsterdam in 2002 and released a new set of reporting guidelines that year. Two years later, GRI undertook a comprehensive two-year consultation process about revisions, involving about 4,000 stakeholders around the world. The resulting third-generation framework, the current "G3" Guidelines, was launched in 2006. GRI is growing in acceptance, as reflected in the number of organizations using it. (*See bar chart.*)

The central touchstone for the latest "G3" iteration of GRI reporting guidance is its set of 49 "core" and 30 "additional" indicators—a decrease from 110 indicators in the 2002 version. The indicators cover three broad areas—economic, environmental and social. The social category is divided into four subcategories—labor practices, human rights, society and product responsibility. Each indicator has associated protocols that provide advice on *how* to make disclosures. The framework also offers guidance on materiality and *what* to report, as noted earlier.



GRI launched an interim update to the "G3" guidelines, version 3.1, on March 23, 2011, together with a new technical protocol designed to help organizations produce reports more easily. The update includes expanded guidance for reporting organizations on human rights, gender issues and local community performance. Since the release of the "G3" Guidelines, GRI also has been working on specialized sector supplements to help tailor the guidelines for companies operating in specific industries and make the reporting more robust and relevant.

GRI now is working on a fourth iteration, (G4) which it plans to unveil in May 2013 after concluding a broad consultation process it began in 2011. In creating G4, GRI said it aims to:

- "Offer guidance in a user-friendly way, so that new reporters can easily understand and use the Guidelines;"
- "Improve the technical quality of the Guidelines' content in order to eliminate ambiguities and differing interpretations—for the benefit of reporters and information users alike;"
- "Harmonize as much as possible with other internationally accepted standards;"
- "Improve guidance on identifying 'material' issues—from different stakeholders' perspective—to be included in the sustainability reports;" and
- "Offer guidance on how to link the sustainability reporting process to the preparation of an Integrated Report aligned with the guidance to be developed by the International Integrated Reporting Council (IIRC)."[44]

GRI also has reaffirmed its commitment to cooperating with the IIRC in a March 2013 second memorandum of understanding between the two groups, although information on how it would offer guidance on integrated reporting did not appear in the most recent draft of G4.[45] GRI is promising nonetheless to tackle this issue before G4's scheduled release in May 2013.

Among the more significant anticipated changes between G3 and G4 are new application levels designed to give new reporters a two-year grace period in reporting "in accordance" with the guidelines and new definitions for organizations declaring "in accordance" reports. In addition, report boundary disclosures now also should include a map of the organization's value chain and how material aspects of sustainability fit into that structure. G4 also has expanded governance metrics intended to "strengthen the link between governance and sustainability performance," including new disclosures "on the ratio of executive compensation to median compensation, the ratio of executive compensation to lowest compensation and the ratio of executive compensation increase to median compensation." G4 also has expanded its supply chain disclosures and included new ones on procurement practices, screening and assessment of suppliers, as well as remediation efforts. As a result, it says that approximately one-quarter of its reporting framework will change with the launch of G4.[46]

CDP—Launched in 2000, CDP operates worldwide on behalf of 722 institutional investors with more than $87 trillion in assets under management (up from 655 institutions with $78 trillion in 2012). It

[44] See https://www.globalreporting.org/resourcelibrary/G4-Exposure-Draft.pdf.
[45] See https://www.globalreporting.org/information/news-and-press-center/Pages/GRI-and-IIRC-deepen-cooperation-to-transform-the-future-of-corporate-reporting.aspx.
[46] See https://www.globalreporting.org/resourcelibrary/G4-Exposure-Draft.pdf.

collects information from the world's largest companies on their greenhouse gas emissions and climate change strategies. In January 2013, CDP sent out its eleventh survey to more than 5,000 of the world's largest global companies; it has expanded its geographic reach to more firms in emerging markets and in the next three years wants to expand carbon reporting to 8,000 companies and 300 cities, and water reporting to 2,500 firms.

While CDP started out solely focused on measuring corporate carbon emissions, its remit has expanded and the organization now has several separate program areas. However, it central program, Investor CDP, continues the original task requesting annual responses to a survey about GHG emissions, climate change risk and opportunity assessments and management strategies. CDP has four parts:

- **Climate Change Programs**, the organization's inaugural effort, work to drive greenhouse gas emissions reduction at companies through investor action and the annual survey.[47]

- **CDP Water Disclosure** collects and reports on water-related data from a group of the biggest companies worldwide who are the most intensive users of water, with the aim of driving investment to sustainable water use.[48]

- **CDP Forests Program** works to address deforestation problems around the world, looking at five agricultural commodities responsible for most deforestation—timber, palm oil, soy, cattle and biofuels. The program, previously the Forest Footprint Disclosure Project, merged with CDP in June 2012.

- **CDP Supply Chain** is a program for global companies to examine and manage climate change impacts throughout their supply chains.[49]

CDP also has initiative to help national and local governments assess climate change impacts in their supply chains.

Companies participate in CDP and build its growing database of climate change information by responding to annual surveys. CDP then contracts with partners to analyze the results and issue annual reports on the findings. The climate change survey asks companies to report on the risks and opportunities they have identified with respect to climate change, and to provide detailed information on their aggregate emissions of greenhouse gases and targets for their reduction. Companies in the oil & gas, electric utilities and automotive sectors receive requests for additional information given their greater carbon footprints. CDP has made considerable efforts to automate its survey process recently, partnering with Microsoft for a new generation data capture system. It also has added a Reporter Services initiative designed to support carbon management efforts.

As with GRI, CDP provides companies with a structured framework for reporting emissions and policy information. Unlike GRI, however, CDP also oversees the production of reports that compare and contrast *performance* as well as the *quality of disclosure*.[50] It also has analyzed the connection companies disclose between climate initiatives and their financial performance, including returns on investments in

[47] See https://www.cdproject.net/en-US/Programmes/Pages/climate-change-programs.aspx.
[48] See https://www.cdproject.net/en-US/Programmes/Pages/cdp-water-disclosure.aspx.
[49] See https://www.cdproject.net/en-US/Programmes/Pages/CDP-Supply-Chain.aspx.
[50] See https://www.cdproject.net for more information.

these areas over varying reporting periods. It published a special report in 2012,*Carbon Reductions Generate ROI*, which included analyses of several types of investments. Energy efficiency was a key area of activity, and companies told CDP that they were realizing average returns on those investments of 33 percent, with a three-year payback window.[51]

IIRC—The International Integrated Reporting Council (IIRC) is a global coalition of regulators, investors, companies, standards setters, accounting professionals and civil society organizations working toward a global framework for integrated reporting. His Royal Highness The Prince of Wales launched the initiative in 2010 through The Prince's Accounting for Sustainability Project (A4S), which also acted as the IIRC secretariat until January 2012. The IIRC then officially changed the "C" in its name from Committee to Council and became independent. The IIRC's proposed framework is intended to underpin the evolution of corporate reporting toward integrated financial and sustainability reporting, reflecting developments in accounting, management commentary and sustainability reporting, and to accelerate adoption of integrated reporting practices among corporations. While the IIRC views many types of stakeholders benefiting from integrated reporting, its chief focus is investors.

In September 2011, the IIRC produced a discussion paper, *Towards Integrated Reporting—Communicating Value in the 21st Century*.[52] The paper was intended as a starting point for a broader dialogue on its intended framework, and the IIRC solicited comments on it through December 2011. In addition to offering the definition for integrated reporting discussed earlier, the paper outlined the arguments for moving toward integrated reporting, including globalization, responses to the financial crisis, greater expectations for corporate transparency, resource scarcity, population growth and environmental concerns. At the same time, it noted a plethora of information on sustainability initiatives in the public realm that continued to display key disclosure gaps despite the tremendous volume of information. Further, it found disconnected strands of information between companies' strategies, governance, operations and financial and non-financial performance, notwithstanding key interdependencies among these concepts. Finally, it said, disparate reporting requirements among various jurisdictions were making reporting more burdensome and costly for corporate reporters.

The IIRC envisioned integrated reporting as offering a "broader explanation of performance than traditional reporting," by making visible "an organization's use of and dependence on different resources and relationships or "capitals"—financial, manufactured, human, intellectual, natural and social—and the organization's access to and impact on them. It is these other capitals, particularly human, intellectual, natural and social, that have been the more difficult intangibles for companies to report on, but these also are widely viewed by proponents as holding tremendous value and consequences for investors.

In June 2012, the IIRC published a summary of 214 responses from organizations and individuals in more than 30 countries to its discussion paper, which informed the continued development of its framework. Based on this input, it released a draft outline of its framework in July 2012[53] and followed up with a prototype framework in November 2012.[54] The prototype was intended as a working document under development. It carried forward many of the themes outlined in its draft discussion paper and incorporated suggestions from the feedback the IIRC received during its comment period. One noticeable difference was the expansion of the heading for social capital to include "social and relationship" capital.

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[51] See https://www.cdproject.net/CDPResults/CDP-Carbon-Action-Report-2012.pdf.
[52] See http://theiirc.org/wp-content/uploads/2011/09/IR-Discussion-Paper-2011_spreads.pdf.
[53] See http://www.theiirc.org/wp-content/uploads/2012/07/Draft-Framework-Outline.pdf.
[54] See http://www.theiirc.org/wp-content/uploads/2012/11/23.11.12-Prototype-Final.pdf.

At the same time, the IIRC extended its deadline to reach a final "Version 1.0" of its International Integrated Reporting Framework to December 2013. To get there, it released its final *Consultation Draft of the International Framework on Integrated Reporting* on April 16 and is seeking comments on the draft through July 15 in time to meet its December deadline.[55] The draft is split into five chapters: an overview; fundamental concepts; guiding principles; content elements; and preparation and presentation.

The draft continues to build on the concept of capitals, defined as "stores of value that, in one form or another, become inputs to an organization's business model." IIRC notes that capitals "are increased, decreased or transformed through the activities and outputs of the organization in that they are enhanced, consumed, modified, destroyed or otherwise affected by those activities and outputs." It also notes that not all capitals are created equal for each organization. The IIRC emphasizes the importance of defining capital beyond the traditional financial capital traditionally focused on by investors, as the value intrinsic in the financial returns generated by that capital are dependent on other forms of capital and key to an organization's success over time. In a softening of its focus on providing information useful to investors, the IIRC points out that these other forms of capital are important to other stakeholders, who therefore will also benefit from robust integrated reporting. In the broader sustainability context, the IIRC notes, this is critical, as integrated reporting "supports broader societal interests by encouraging the allocation of financial capital to reward and support long term, as well as the short and medium term, value creation within planetary limits and societal expectations." It also helps organizations avoid business strategies, it says, that can be "overly focused on optimizing short term financial performance" and "impede the ability to create long term value" by, for example, limiting investment in research that leads to innovation.

The draft builds on the definitions for six different capitals:

- **Financial—**Funds obtained through financing, such as debt, equity or grants, or generated through operations or investments, that is available to an organization for use in the production of goods or the provision of services.

- **Manufactured—**Buildings, equipment, infrastructure and other physical object, aside from natural resources, at an organization's disposal to produce goods or services. Of note is that these can include elements created by other organizations, such as roads and waste treatment plants.

- **Intellectual—**Intellectual property, such as patents, copyrights, software, rights and licenses; organizational assets, such as knowledge, systems, procedures and protocols; intangibles, such as brand value and reputation.

- **Human—**The competencies, capabilities and experience of an organization's employees and contractors, as well as their motivations to innovate and support the organization's governance, management approach, ethical values, overall strategy, products and services.

- **Social and relationship—**Relationships within and between communities, groups of stakeholders and other networks, including customers, suppliers, business partners, policymakers, and the ability to share information to enhance individual and collective wellbeing. This includes an

[55] See http://www.theiirc.org/wp-content/uploads/Consultation-Draft/Consultation-Draft-of-the-InternationalIRFramework.pdf.

organization's ability to build and maintain a social license to operate.

- **Natural—**Air, water, land, minerals, forests, biodiversity, ecosystems and all other renewable and nonrenewable environmental resources and processes that provide goods or services that support the past, current or future prosperity of an organization.

The IIRC's construct of six capitals also changes the traditional meaning of value for investors associated with the present value of expected future cash flows and earnings to include other forms of value that an organization creates through the increase, decrease or transformation of the capitals, each of which will likely ultimately affect financial returns.

In addition, the IIRC's draft expanded and revised an original five guiding principles to six that underpin the preparation of an integrated report:

- **Strategic focus and future orientation—**insights into a company's overall strategy and how it "relates to its ability to create value in the short-, medium- and long-term and to its use of and effects on the capitals."

- **Connectivity of information—**a comprehensive look into "the combination, inter-relatedness and dependencies between the components that are material to the organization's ability to create value over time."

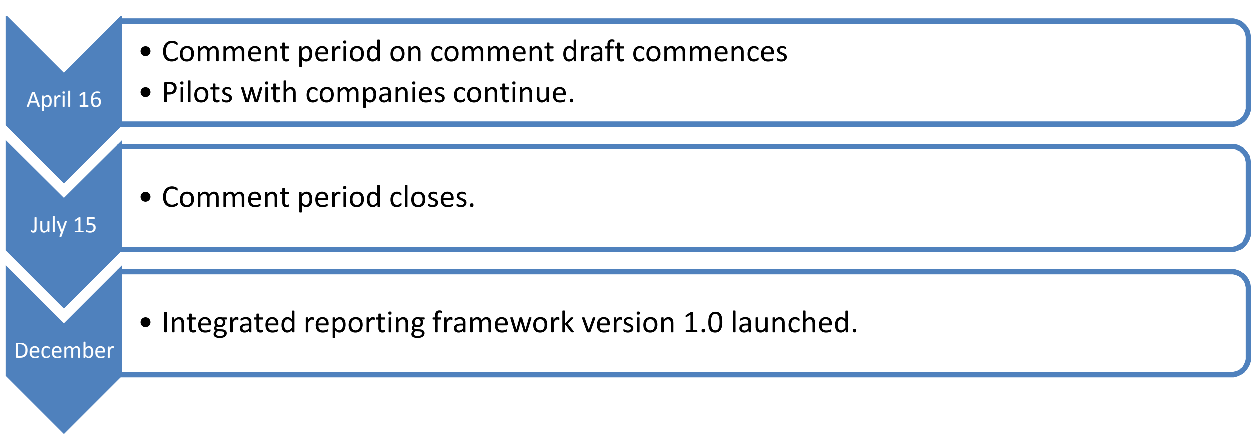
- **Stakeholder responsiveness—**the "quality of the organization's relationships with its key stakeholders and how and to what extent the organization understands, takes into account and responds to their legitimate needs, interests and expectations."

- **Materiality and conciseness—**confining reporting to "information that is material to assessing the organization's ability to create value…"

- **Reliability and completeness—**the inclusion of all pertinent information, both positive and negative, in a balanced presentation that avoids material errors.

- **Consistency and comparability—**offering information that is comparable over time and between peers.

IIRC Timeline for its International Framework



The draft also describes seven key content elements, up from six in its discussion paper, the presentation of which, it said, "should make the interconnections between them apparent." The seven elements are:

- **Organizational overview and external environment**, which includes information on what an organization does and the circumstances under which it operates.

- **Governance**, including how an organization's governance structure supports "its ability to create value…"

- **Opportunities and risks**, namely those that "affect the organization's ability to create value…"

- **Strategy and resource allocation**, including a roadmap of an organization's operational goals.

- **Business model**, including key underpinnings and resiliency in the face of material risks.

- **Performance**, including measures of the extent an organization is meeting is strategic objectives and operational goals.

- **Future outlook**, including any "challenges and uncertainties" the organization is "likely to encounter in pursuing its strategy," as well as the "potential implications for its business model and future performance."

During 2013, IIRC said it will be working on the release of various topic papers tackling challenges identified during its comment period and continuing its pilot program with companies to encourage experimentation and innovation, as well as to identify good practices. It launched a database dedicated to highlighting these practices in 2012.[56]

As noted earlier, the IIRC has received broad support from regulators, investors, companies, standard setters, the accounting profession and civil society organizations. It also announced in February 2013 an agreement with the International Accounting Standards Board (IASB), which is responsible for the development and promulgation of International Financial Reporting Standards (IFRSs) for companies in more than 100 companies worldwide. The two organizations have pledged deeper cooperation as the IIRC works toward the launch of its framework.[57]

SASB—Launched in October 2012, SASB set out on a more than two-year effort to define integrated reporting in the United States by establishing standards for disclosures in 10-K filings by industry sector with a materiality lens as its touchstone. As its founder and executive director, Jean Rogers, told Si2, "Reporting on material issues is mandatory in the Form 10-K under existing securities laws in the United States. Therefore, no additional regulation is needed for mandatory reporting of material sustainability issues in the United States." However, she underscored, "Better clarification on how to recognize and disclose material sustainability issues is needed to assist companies and regulators," which is SASB's mission.

[56] See http://examples.theiirc.org/home.
[57] See http://www.theiirc.org/2013/02/07/iasb-and-iirc-formalise-cooperation-on-work-to-develop-integrated-corporate-reporting-framework/.

SASB has defined principles for this effort that dictate that each reporting requirement must be:

- Applicable to all investors.
- Relevant across an entire industry.
- Focused on creating value and mitigating risk.
- Actionable by companies and within their control or influence.
- Measurable, quantifiable when possible, comparable, replicable, auditable and verifiable.
- Objective and support decision making for companies and their investors.[58]

It also has sought to redefine industry classifications in its process. SASB notes that most major industry classifications systems use revenue from various product lines and activities as the basis for classifying companies into specific sectors, but this approach ignores that fact that a company's market value is determined by much more than revenue. It points out that as much as 80 percent of market capitalization is accounted for by intangibles, "such as human capital, intellectual property and brand." In response, SASB developed the Sustainable Industry Classification System (SICS), which categorizes industries by "their *resource intensity* as well as their *sustainability innovation potential*." SASB has mapped its SICS back to more widely used systems such as GICS for ease of reference. Its 88 sectors are grouped into 10 broad, thematic industries: healthcare, financials, technology and communication, non-renewable resources, transportation, services, resource transformation, consumption, renewable resources and alternative energy, and infrastructure. These form the basis for working groups, which will establish draft standards for reporting.[59]

To guide its efforts, SASB also has created a materiality map for each sector based on five data points:

- Financial risks;
- Regulatory and policy drivers;
- Industry norms and competitiveness;
- Stakeholder concerns; and
- Opportunities for innovation.

It examined data on U.S. companies to determine materiality, adjusting in two areas: 1) linkages to operational value drivers such as revenue growth, return on capital, risk management, and management quality; and 2) principles of sustainability such as intra-generational effects and systemic impacts. It then ranked the results to determine material sustainability issues for each industry. For each issue deemed material, SASB is creating an accounting standard. It expects to finish this process for all industries by the end of the first quarter of 2015.[60] It has already opened the public comment period on

SASB's Timeline for Producing Accounting Standards by Sector

Sector	Timeframe
Healthcare	Q4, 2012
Financials	Q1, 2013
Technology and Communication	Q2, 2013
Non-Renewable Resources	Q3, 2013
Transportation	Q4, 2013
Services	Q1, 2014
Resource Transformation	Q2, 2014
Consumption	Q3, 2014
Renewable Resources and Alternative Energy	Q4, 2014
Infrastructure	Q1, 2015

[58] See http://www.sasb.org/approach/principles/.
[59] See http://www.sasb.org/sics/sustainable-industry-classification-system-sics/.
[60] See http://www.sasb.org/materiality/sasb-materiality-map-2/.

its sustainability accounting standards for the healthcare industry group, which includes biotechnology, pharmaceutical, medical equipment, healthcare delivery and distribution, and managed care firms, and has moved on to the financial services sector.[61]

SASB has gained the support of a broad range of organizations, including major institutional investors such as the California State Teachers' Retirement System (CalSTRS) and TIAA-CREF, investment banks such as Morgan Stanley and UBS, accounting firms such as Deloitte and Ernst & Young, SRI funds such as Domini Social investments and Trillium Asset Management, corporations such as Hershey and Johnson & Johnson, research organizations such as Bloomberg and MSCI, and civil society organizations including the Environmental Defense Fund (EDF) and the World Resources Institute (WRI), as well as a long list of academics, law firms and issue experts. For now, it is not working directly with the Financial Accounting Standards Board (FASB), which oversees standards setting for accounting and financial reporting for U.S. companies in coordination with the SEC.

Cautionary notes: In responding to the IIRC's requests for comments on its draft paper outlining its definitions and concepts for an integrated reporting framework, several U.S. organizations have had words of encouragement and caution as the IIRC moves ahead. They span several topics, including the focus on large companies, the time horizons covered in reporting, the potential threats to present sustainability reporting practices, and the tapping of existing guidance in this area for companies, although the suggestions were not always aligned.

- **Smaller firm and emerging market reporting:** Algemene Pensioen Groep (The All Pensions Group or "APG"), the California Public Employees' Retirement System (CalPERS), and Norges Bank Investment Management (NBIM) submitted a joint comment highlighting that, as universal owners of equities, they are just as concerned about "the large number of listed companies that do not provide any reporting on non-financial risks, particularly emerging market companies and small companies." They encouraged the IIRC to consider how integrated reporting could "trigger such companies to disclose their environmental and social risk exposures and develop strategies for managing them." As long-term investors, the three also are concerned about the IIRC adopting a long-term perspective, saying this is "necessary to fully capture the material impact that climate change-related risks may pose to the long-term value of carbon-intensive assets."[62]

- **Will current reporting get watered down?** Meanwhile, US SIF: The Forum for Sustainable and Responsible Investment, urged the IIRC "to pay particular attention to ensure that integrated reporting does not diminish the quality of the good ESG or sustainability reporting that exists today." The group noted, "We are concerned that IIRC's efforts to integrate, remove 'clutter' and shorten the length of a report may have the unintended consequence of excluding certain ESG information from such reports thereby further diluting the quality of the sustainability reporting that exists today." In the end, the group said, "The bottom line is that many US SIF members would actually prefer to see a separate and comprehensive ESG report published than a watered-down, much shorter ESG section of an integrated report." The group also flagged "that major accountancy firms have been more actively represented than investors, civil society and other stakeholders" in the IIRC's deliberations, which US SIF sees as a shortcoming. It too

[61] See http://www.sasb.org/sustainability-standards/public-comment/.
[62] See http://www.theiirc.org/wp-content/uploads/2012/02/APG-Ca1PERS-NBIM-Norway.pdf.

was "concerned that the IIRC discussion paper does not elaborate on the role of the Global Reporting Initiative (GRI) in the integrated report process."[63]

- **A need for better explanation:** The American Institute of Certified Public Accountants (AICPA) said too much attention to date has been focused on "what integrated reporting does, not what it is." It contended honing in on what integrated reporting is—whether a process, a set of principles, recommended disclosures, or something else—is important for helping key players understand and embrace the concept. AICPA also said that in defining integrated reporting it is important to the needs of its preparer community "to emphasize that an integrated report is not intended to be an add-on to existing reports." On future orientation, AICPA said, while "a company might be expected to disclose key leading indicators that an investor could use as input to a model that would generate a projection related to expected performance," the company itself should "not be expected to disclose such a projection." It explained, "Some companies may be hesitant to disclose projections based on their expectations of future performance, and as a result including this expectation of management in the guiding principles could serve as an unnecessary barrier to adoption of integrated reporting."[64]

- **What works now?** The Carbon Disclosure Project (CDP) also thought the IIRC needed to focus more on defining what integrated reporting is and is not, rather than what it is "supposed to do" or "how it works." It also thought that the IIRC should refer to existing definitions for integrated reporting, such as the one given in the King Report on Governance for South Africa (King III), which defines integrated reporting as "a holistic and integrated representation of the company's performance in terms of both its finance and sustainability." CDP encouraged IIRC "to produce a Basis for Conclusions document when/if it publishes any further definitions of integrated reporting so that readers can appreciate the debate held internally." It also said it was "not convinced that sufficient work has yet been done to identify all existing relevant practices and/or the extent to which they are or are not satisfying the needs of preparers and users," including the CDP's own disclosure standard. CDP also was worried that the IIRC was straying from its original focus of serving investors as its paper was ambiguous on the intended end audience was for integrated reporting, and it endorsed IIRC remaining focused on its investor audience in formulating its framework.[65]

- **Support for "multiple capitals":** Microsoft said that "many of us involved in financial reporting have lamented, admittedly in very generalized terms, that financial reporting seems to be moving more towards a compliance exercise rather than a communication exercise." It thought that the guiding principles identified in the IIRC's draft paper "provide a sound foundation for preparing an integrated report and that the concept of multiple capitals is helpful in explaining how an organization creates and sustains value." It noted, "This is especially true with respect to intellectual capital and human capital, which are two areas we do not believe currently receive enough focus in current financial reporting given the potential of both of these capitals to significantly impact an entity's value creation."[66]

[63] See http://www.theiirc.org/wp-content/uploads/2012/02/US-SIF-USA.pdf.
[64] See http://www.theiirc.org/wp-content/uploads/2012/02/AICPA-USA.pdf.
[65] See http://www.theiirc.org/wp-content/uploads/2012/02/Carbon-Disclosure-Project-United-Kingdom.pdf.
[66] See http://www.theiirc.org/wp-content/uploads/2012/02/Microsoft-USA.pdf.

- **Too much information and reporting creep?** Society of Corporate Secretaries & Governance Professionals President & Chief Executive Officer Kenneth A. Bertsch told Si2 a chief worry for his members, who include more than 3,000 attorneys, accountants and other governance professionals serving 1,800 public, private and not for profit companies of most every size and industry, was moving beyond present regulatory requirements for corporations under materiality definitions covering annual 10-K filings. "If it is material, after all," Bertsch said, "it should already be in the 10-K." To the extent that integrated reporting champions are trying to bring in non-material content, new requirements could hurt the intended benefactors of integrated financial and sustainability reporting—investors and investment analysts, he explained. He said examples of this type of reporting creep were political agendas being brought to financial reporting in Dodd-Frank, such as the new rules on conflict minerals, payments to host governments for resource extraction firms, mine safety and pay disparity. "The disclosures companies are making are already voluminous," he noted, "and bringing in new information that in actuality is intended for a completely different audience does a disservice to investors." He added, "Already rule bound, most companies find reporting lending itself more to lawyers writing documents than effectively communicating with shareholders."

- **More requirements a brake on going public?** Bertsch also said that onerous reporting requirements were scaring many companies away from issuing public stock offerings, which in the end is the opposite intention of integrated reporting advocates because publicly traded companies generally are more transparent and accountable to the public. Conversely, to the extent the integrated reporting movement could lend guidance to present materiality standards to help companies report more succinctly and effectively, he believed all interested parties could benefit.

Possibilities: Those watching the integrated reporting debate unfold from the U.S. perspective will want to keep tabs on the following developments:

- **The SEC's upcoming rulemaking** on pay disparity, other remaining Dodd-Frank requirements and legal challenges to them, as well as its response to the recent petition for political spending disclosures.

- **The IIRC's release of its version 1.0** in December and particularly how it addresses shortcomings highlighted in comments on its consultation draft.

- **The continuing work of SASB** to define reporting requirements by industry sector using its unique classification system, materiality matrix, and principles for sustainability accounting standards.

- **GRI's release of its G4 guidelines** in May and its take on how they apply to the IIRC's ongoing efforts and integrated reporting in general.

- **Developments surrounding sustainability disclosure listing requirements for major stock exchanges.** In April, the Ceres-led Investor Network on Climate Risk (INCR) unveiled a consultation paper with recommendations for integrating sustainability disclosure requirements into listing rules for stock exchanges in the United States and other major markets. The group is working with NASDAQ OMX, which already has its own set of disclosure rules, to develop a uniform standard for stock exchanges worldwide.[67]

In observing these somewhat overlapping efforts, observers will want to see if the champions of integrated reporting, and regulators and other parties associated with these efforts, can push conceptual work into worthwhile practice. A long-term challenge for sustainability reporting in general, and integrated reporting in particular, has long been translating risks into dollar and cents figures corporate executives and investors would understand and act upon. While this surmountable obstacle has been resolved to varying degrees of success across many issues, it continues to prove difficult on many and oftentimes hinges on strong governmental regulation.

The measurement barrier goes beyond developing systems for collecting data, which could prove costly themselves. While many sustainability initiatives warrant their implementation—employment nondiscrimination, robust human rights practices for operations in conflict zones and supply chains, and full disclosure of political spending—because they help companies avoid controversies and the public relations and legal debacles associated with them, it is very hard to prove a negative, namely how investments in these area are generating returns when the benefits—avoided controversies—are an unknown.

There certainly could be legislative remedies to integrated reporting in the United States or more formal regulatory processes such as rulemaking by the SEC. But it appears proponents of integrated sustainability and financial reporting believe implementation can be carried out under existing materiality standards and current reporting rules, with guidance on sustainability issues for companies filling any gaps. They might even come to fruition through future listing requirements on major stock exchanges. Key to these efforts will be buy-in from stakeholders who already value sustainability reporting and fear that integrated reporting may limit information they are already getting from companies.

In addition, as the SEC has pushed ahead with guidance and rulemaking on a handful of sustainability topics, it has received considerable pushback from industry groups, including lawsuits seeking to block rulemaking attempts. Most of these have been built on the cost proposition. The industry groups have argued in the past that the disclosure remedies sought by sustainability champions often involve costs that far surpass their value to companies and their shareholders. As the SEC's primary function is to protect investors, any integrated reporting framework or guidance likely will need to pass muster on a cost-benefit basis before it will receive backing and wider acceptance.

Finally, enforcement will be crucial. As reviewed in Section 1 of this report, there are already considerable laws, regulations, rules and guidance protocols for companies to report to investors on a wide range of sustainability issues, environmental liabilities and climate change risks among them. Many groups, including the sustainable and responsible investors noted earlier, have long argued that companies are flouting these obligations in the face of weak regulatory oversight and the allure of short-term financial gains. The following section on IRRCi's and Si2's research into present disclosure practices sheds some light on this note. Therefore, the success of any integrated reporting regime will hinge on the political will and resources to enforce the rules envisioned by integrated reporting's proponents.

[67] See http://www.ceres.org/press/press-releases/investors-announce-proposal-for-sustainability-listing-standard-for-global-stock-exchanges.

III. Practices

Si2 commenced research on integrated reporting trends of the S&P 500 in June 2012 and wrapped up research in December 2012; data analysis and the report were completed in April. The study's purpose was to gauge the extent to which major U.S. companies are disclosing sustainability information to investors of all stripes, particularly in more mainstream reports, such as the Form 10-K, the annual report and the proxy statement. However, another aim was to assess how much companies discuss financial risks and opportunities related to sustainability challenges in other forms of sustainability reporting, as well as to test claims that information is inconsistent, incomplete and missing key, material elements important to a company's financial prospects and its investors. Finally, the work also sought to determine which sustainability issues companies deemed most pertinent, and the differences in how industry groups viewed the highest risks and opportunities.

The next section reviews the research methodology, including industry and revenue classifications for firms, the study's data points and input parameters, what was excluded and company evaluations.

Following the research method discussion are the aggregate findings for the S&P 500, along with some industry and revenue trends.

The Detailed Findings sections cover findings for each of the 20 industry sectors Si2 studied:

- Energy
- Materials
- Industrial Machinery
- Commercial Services
- Transportation
- Consumer Durables
- Restaurants, Hotels and Consumer Services
- Media
- Retail
- Consumer Staples
- Medical Devices
- Healthcare
- Pharmaceuticals and Biotechnology
- Banking and Investments
- Insurance
- Real Estate
- Technology Services
- Technology Hardware
- Communications
- Utilities

Method

Universe: This report examines the S&P 500 to look at a large enough sample to establish trends in integrated reporting for large-cap, publicly traded companies in the United States, as well as individual industry sectors. However, the sample has its shortcomings. It is not a good proxy for trends among mid- and small-cap firms and even less representative of global trends. Both could be areas for future study. On smaller and mid-size companies, research could be critical. As noted in our findings in the following sections, there is a steep drop in sustainability reporting among lower revenue tiers within the S&P 500, which could point to barriers for smaller firms or potential difficulties with complying with an integrated reporting regime.

Industry and financial data: In June 2012, Si2 took a snapshot of the S&P 500 and collected data on each company's revenues and industry sector. Financial data was gleaned from the company's latest 10-K, and companies were divided into five equally sized revenue bands of 100 companies each. For industry classifications, Si2 used the Global Industrial Classification Standard (GICS) to assign companies to industry groups and sourced sector determinations directly from companies' 10-K filings. If a company did not disclose a principal GICS code in its 10-K, Si2 looked elsewhere on the company's website for a GICS designation. If none was found, Si2 reviewed the companies' peer groups disclosed in its 10-K and proxy filings to determine and assign an industry code. Given the complexities and diversification of many large U.S. companies' operations, Si2 acknowledges that classifying many companies by industry has its challenges, and readers should note that any one company is likely to have activities overlapping several sectors. However, for the purposes of this analysis, the six-digit GICS system was adhered to, and industries were broken out in this analysis at the four-digit level with two caveats. The GICS system has 10 sectors (two digit level), 24 industry groups (four digit) and 68 industries (six digit), but Si2 conflated four industry groups into two, yielding 20 industries, given the number of companies in these sectors and the aims of this study. Automobiles and components were lumped together with consumer durables and apparel to form the consumer durables sector, and banks and diversified financials were combined to form the banking and investments sector.

General: This report reviews the most recent disclosure for each company issued during the 2012 calendar year for four principal types of documents: the 10-K filing; the annual report; the sustainability report or portion of website; and the proxy statement.

For the 10-K and annual report, Si2 searched for mentions of the following sustainability topics:

- **Climate change**, including mentions of energy and fuel efficiency efforts, as well as investments in renewable energy and other carbon-free and low-carbon technologies. As noted earlier, the SEC offered interpretive guidance in 2010, noting that companies must disclose regulatory, business and physical risks related to climate change in their 10-Ks.

- **Environmental management**, namely systems and procedures to govern environmental and/or environmental health and safety issues, including the International Standards Organization's 14000/1 standards and the OHSAS 18000/1, developed by a consortium of standards-setting organizations.

- **Water use**, specifically as it relates to water consumption.

- **Hazardous waste**, including air emissions deemed toxic.

- **Waste management**, excluding the treatment, storage and disposal of toxic waste, but including all other forms of non-hazardous waste and recycling efforts.

- **Product formulations**, including investments in green, fair trade and other sustainable product lines, as well as life-cycle sustainability impact assessments of product lines.

- **Employment**, including worker health and safety, workforce development, employee engagement, labor relations and workplace diversity.

- **Human rights**, including fundamental rights at work, sweatshop and supply chain issues.

- **Ethics**, as related to fraud and extortion but not covering broader governance topics such as executive pay, board independence and oversight, or risk controls. Disclosures on political contributions were only included if they mentioned a particular reputational risk or business opportunity for the firm, such as more favorable regulations.

For each area, Si2 asked three principal questions:

- Did the company discuss the issue as a **financial risk**?
- Did the company see any **business opportunities** related to the issue from product developments, customer requirements or cost savings?
- Did the company attach a **monetary value** to these risks or opportunities?

In cases where companies discussed business opportunities, this report also considered it a risk disclosure, even if the word risk wasn't used or implied by the company—since there is inherent risk in any business opportunity.

Readers also should note that there was some overlap in certain areas. For example, many companies discussed innovations to address climate change, including energy efficient products and renewable energy solutions, which also were counted under product formulations. Similarly, several companies had revamped packaging for their products to ensure recyclability, reduction in overall waste and/or use of post-consumer waste and other recycled content. In these cases, too, companies were given credit for these disclosures under product formulations and waste management. Likewise, many companies described environmental management systems as worthwhile investments in helping to reduce overall operational risks related to employee health and safety and related lawsuits and productivity losses, as well as spills of hazardous materials and associated cleanup and remediation costs. As appropriate, therefore, companies were considered to have discussed environmental management and hazardous waste, and at times employment, for these disclosures.

10-K filings: For the 10-K, this report also reviewed disclosures mostly related to recent requirements enacted as part of the Dodd-Frank reforms in 2009 and interpretive guidance issued by the Securities and Exchange Commission on climate change in 2010:

- **Mine safety**, namely health and safety incidents and fines reported to the U.S. Mine Safety and Health Administration.
- **Payments to governments** by resource extraction firms for exploration and development rights.
- The sourcing of **conflict minerals** in the Democratic Republic of the Congo (DRC) and surrounding areas defined as part of the conflict by the U.S. Department of State.

The report also examines information on company's disclosures of environmental liabilities and other sustainability-related lawsuits and liabilities disclosed in the 10-K, as well as discussions of such issues in the context of the Management Discussion & Analysis (MD&A). (For annual and sustainability reports, we captured information on mine safety under labor, government payments under ethics, and conflict minerals under human rights, and did not break out this data as it did for 10-K filings.)

Annual reports: When looking at annual reports, SI2 noted if the company simply issued a 10-K that doubled as its annual report or attached the entire 10-K filing to the annual report, which was true for nearly 69 percent of companies. In cases where companies only issued a 10-K filing, Si2 gave considered that disclosures under the annual report banner as well as the 10-K filing. We also looked to see if the company issued a statement on integrated reporting in the annual report, whether the company declared the annual report an integrated report, and whether it used the Global Reporting Initiative's reporting guidelines in assembling the report.

Sustainability reporting: Instead of collecting all mentions of these issues in these reports, we examined if companies discussed the issues in the context of the overall strategic business plan or other financial context, whether companies included financial reporting in their sustainability reports and whether sustainability reporting was completed in compliance with the Global Reporting Initiative's guidelines.

Proxy statements: Finally, in each company's proxy statement, we looked for links between executive pay and sustainability performance. This paper classifies links in three broad areas: environmental, social and ethics, particularly as related to fraud. We also sought information on the role board diversity played in each company's director nomination process. (As noted earlier, the board diversity disclosure is a requirement enacted by the SEC in 2010.)

Inclusions and exclusions: Issue areas for study were based on regulatory requirements and inclusion in the Global Reporting Initiative's guidelines. However, not all subjects made the cut.

For example, most of the companies had disclosures addressing corporate philanthropy, social investment, community programs and volunteering initiatives in their sustainability reporting and, at times, in their annual reports. For the purposes of this study, Si2 did not include these data with one exception—financial services firms with products directed at community development were given credit under product formulations. Some argue that corporate philanthropy, social investment, community programs and volunteer efforts are important builders of goodwill in communities and brand value, and that these mostly charitable activities also assist companies in maintaining a social compact with and licenses to operate in communities. This could be a useful future area of study in relation to integrated reporting.

In addition, Si2 did not look at the extent companies had and disclosed board oversight mechanisms for the governance of sustainability issues. This would have required Si2 to review each company's governance documents, including committee charters, and these fell out of the scope of the study. Shareholders increasingly have been looking for and requesting formal board oversight mechanisms for sustainability, and many companies have even set up separate board committees dedicated to these tasks, at times requiring these committees to have environmental or other types of sustainability experts. We also did not review the extent of executive oversight of these issues, existence of senior company officials dedicated to the management of these issues or integration of this oversight into business operations—additional fruitful topics for future study.

Another key area of disclosures not reviewed was responses from companies to the Carbon Disclosure Project's annual questionnaire. The Carbon Disclosure Project (CDP) offers analysis of these disclosures on its own, and Si2 did not seek to duplicate this research. Furthermore, the focus of this paper is on integrated reporting, not disclosure more broadly, resulting in a limited focus on what companies offered to investors and other key stakeholders directly in its own securities filings, annual report and sustainability reporting platforms.

Scoring: For each binary—yes/no—data point, Si2 awarded a point to a company if it disclosed information in the area, with a total of 113 points available. While to an extent the results are scores about the degree of integrated reporting each company used, they should not be interpreted as Si2's assessment of each company's sustainability performance. For example, companies with higher scores were likely to disclose more risks than their peers. This could be because they are better at the management of sustainability issues and more transparent; however, it also could mean that the company simply engages in more risky behavior. Companies with the highest scores in each industry sector are profiled. These companies are not necessarily sector performance leaders, however, although the mantra that "what gets measured gets managed" is part of the fundamental outlook promoted by integrated reporting advocates.

Aggregate Findings

In all, only 1.4 percent of the S&P companies reviewed—seven in total—included a statement on integrated financial and sustainability reporting or declared their annual financial reports to also be sustainability reports. All seven used the Global Reporting Initiative (GRI) guidelines as a reference or otherwise complied with one of GRI's most recent reporting frameworks—3.0 or 3.1. *(See box.)*

S&P 500 Companies with Fully Integrated Annual Financial and Sustainability Reports

- **AEP** (GRI 3.1, A, GRI Checked)
- **Clorox** (GRI 3.1, B+, GRI Checked)
- **Dow Chemical** (GRI 3.0, A+, GRI Checked)
- **Eaton** (GRI 3.0, C+, Self-Declared)
- **Ingersoll Rand** (GRI 3.1, B, Self-Declared)
- **Pfizer** (GRI 3.0, B, Self-Declared)
- **Southwest Airlines** (GRI 3.0, B+, GRI Checked)

The tiny number of formally integrated reports speaks volumes about the very limited uptake for the practice in the United States, or at least for the type many proponents envision. The seven firms were spread across six industry groups: one of the six was classified by Si2 as a Materials company (**Dow Chemical**), two as Industrial Machinery firms (**Eaton** and **Ingersoll Rand**), one as a Transportation outfit (**Southwest Airlines**), one as a Consumer Staples manufacturer (**Clorox**), one as a Pharmaceutical company (**Pfizer**) and one as a Utility (**American Electric Power**). By size as measured by revenues, the seven tended to be bigger: two fell in the top revenue quintile of the S&P 500 (Dow Chemical and Pfizer), four in the second highest quintile (AEP, Eaton, Ingersoll Rand and Southwest Airlines) and the other in the fourth quintile (Clorox).

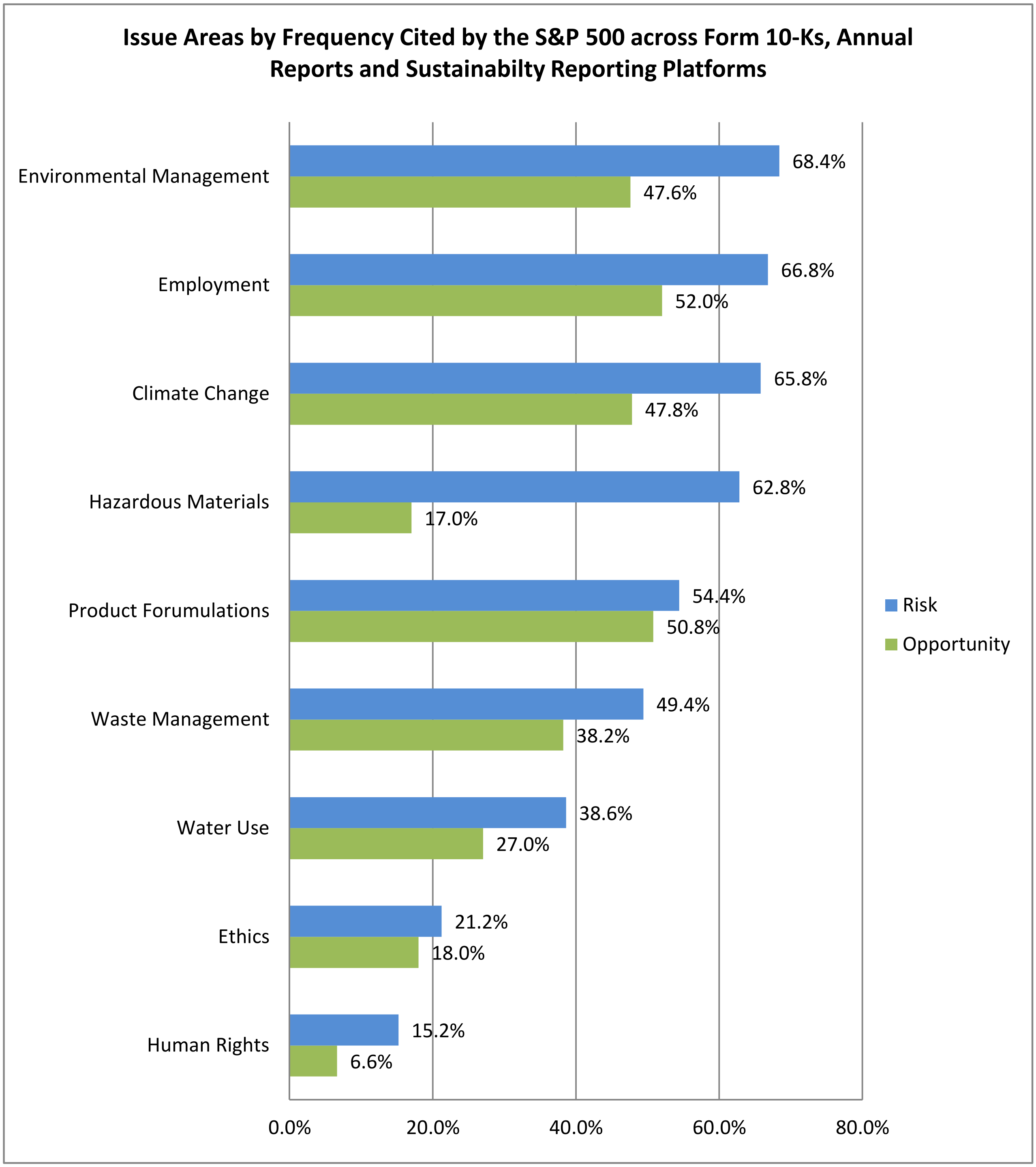
However, integrated reporting in a broader context beyond the definitions set out in the aspirations of its proponents is far more common in the United States, and two headlining statistics from Si2's research demonstrate that more formalized integrated reporting might not be such a foreign concept for U.S. companies:

- 499 companies made at least one sustainability-related disclosure. **Zions Corporation** is the only company not to include any sustainability disclosure across the various reports examined.

- Nearly three quarters (74 percent) of the companies placed a dollar figure on at least one sustainability-related initiative, though they frequently also mentioned other initiatives whose benefits/costs were not quantified.

- 43.4 percent of the companies linked executive compensation to some type of sustainability criteria.

Regulations and rules on disclosing environmental contingencies, liabilities and government fines, as well as climate change and a handful of other sustainability risks, (reviewed in Part I) are driving much of this disclosure. As much of the sustainability-related information offered by companies was a compliance exercise, few gave investors a top-to-bottom assessment of sustainability risks and opportunities and prospects. In fact, the report's data indicate that by not scaling up sustainability initiatives and coordinating them through a unified corporate strategy, many companies may be missing opportunities to improve financial results.



By issue: Environmental management was the issue area most frequently mentioned as a financial risk in Form 10-Ks, annual reports and sustainability reporting platforms, followed by employment and climate change. The least likely risks to be mentioned were those related to human rights, followed by ethics and water use. In framing the issue as a business opportunity, employment matters, followed by product formulations and climate change were the most likely to be reported, while human rights, followed by hazardous materials and ethics were the least likely. Hazardous materials saw the largest spread (45.8 percentage points) between companies disclosing risks (62.8 percent) and opportunities (17.0 percent). (*See bar chart on previous page.*)

Si2 also identified the following trends by issue:

- **Environmental management** ranked high in importance as the most frequently discussed risk and fourth in mentions of opportunities. For those including a disclosure on environmental management, capital expenditures on environmental controls and systems were the most common. Almost half of the S&P 500 discussed the benefits of these measures, mostly in sustainability reporting platforms, namely reducing overall operational risks, especially as they relate to employee health and safety and associated losses tied to productivity, settlements and lawsuits, as well as environmental spills and related cleanup and remediation costs, potential fines and lawsuits. Regulatory requirements surrounding disclosures of environmental liabilities and contingencies drove a good portion of the disclosure in this area. Utilities, followed by materials and transportation firms, were the most likely to talk about environmental management.

- **Employment** was the most widely cited business opportunity, as well as the second most frequently sustainability risk mentioned. It generated many common themes across sectors. Most companies noted valuing employees and the importance of retaining talent. Many described programs to engage employees about business topics, workplace issues and job satisfaction, as well as benefits to attract and retain them, including job training and continuing education. Diversity also was mentioned often by companies as a key driver of business success. However, health and safety risks also were common notes, as were risks related to poor employee relations, work stoppages and strikes. Employment also was the most frequently mentioned business opportunity in 10-K filings. Transportation companies, followed by utilities and materials firms were the most likely to discuss employment.

- **Climate change** was the risk and opportunity cited third most often. It was frequently discussed in the context of potential regulation in the United States and as a chief concern among key stakeholders. Many companies identified the energy efficiency of their operations as well as products as low hanging fruit, since they found investments in energy efficiency lower costs and often produce returns on those investments competitive with other competing demands for capital. In addition, companies noted that customers are increasingly demanding more energy efficient products, prompting them to invest in new technologies to meet demand. A key driver of higher disclosures in this area was SEC interpretive guidance released in 2010 telling companies that they needed to disclose material regulatory, commercial and physical risks related to climate change in Form 10-Ks, as were references to responses to the Carbon Disclosure Project's annual questionnaire. Utilities, followed by transportation and materials firms, were the top sectors making climate change disclosures.

- **Hazardous waste** was fourth in the percentage of companies discussing it as a risk and second to last cited potential opportunity. Most disclosures on hazardous waste related to required disclosures on governmental fines in excess of $100,000, as well as pending or settled litigation and related cleanup and remediation costs. Many companies also discussed the status of various Superfund sites and their potential obligations under EPA orders. It was the only topic discussed as a risk by a majority of S&P 500 companies—57.7 percent—in Form 10-K filings and also the most frequently mentioned risk (47.5 percent) in annual reports. Utilities, followed by materials and energy companies, ranked highest in hazardous waste disclosures.

- **Product formulations** rounded out the top five on risk disclosures, but it also was the second most frequently mentioned opportunities by S&P 500 companies. Nearly half of the companies reviewed sustainability issues in the context of product formulations, including conducting product lifecycle assessments, although most disclosures happened in sustainability reports and many were limited to discussions of packaging design and content. However, many companies noted that they are increasingly seeing a market for "green," "fair trade" or other types of sustainable products among consumers and business customers alike. Sustainable product developments were the most frequently discussed risk and opportunity across sustainability reporting platforms. Transportation companies, followed by utilities and materials firms, talked about product formulations most often.

- **Waste management** disclosures, ranking sixth on risk and fifth on opportunities, included efforts among companies to reduce packaging and to move manufacturing operations toward producing zero landfill waste. Transportation, followed by commercial services and materials companies, were the most likely to discuss waste management.

- **Water use**, the seventh out of nine issue areas in ranking on mentions of risks and sixth on opportunities, was viewed by companies principally in two ways—as a flat out cost and as a potential risk due to scarcity. Several companies with water-intensive manufacturing or other operational needs had completed or had begun to undertake assessments to review current and future demand, availability and associated operational risks. Utilities, followed by energy and materials companies, were the most apt to talk about water use.

- **Ethics** was the second to least likely sustainability risk to be mentioned by companies and the third to last in the opportunity column. It was most often discussed in the context of compliance with the U.S. Foreign Corrupt Practices Act (FCPA). Pharmaceutical and biotechnology companies followed by transportation and industrial machinery firms, were the most likely to discuss ethics.

- **Human rights** was the topic least discussed by companies—taken up by fewer than an eighth—and the rarest to be mentioned across all reporting platforms studied (10-Ks, annual reports and sustainability reports). The issue was most often described as a reputational risk and covered in relation to suppliers' use of child or forced labor or operations in conflict zones. Consumer durables firms, followed by retailers and technology hardware manufacturers, were the most inclined to have human rights disclosures.

Monetary value: Placing a dollar figure on sustainability risks or opportunities is where tread hits pavement for today's integrated reporting advocates, and, as noted earlier, 74 percent did so at least once across all of the types of documents Si2 examined. However, in the vast majority of cases spanning the sustainability issues companies chose to discuss, specifics were rarely disclosed—even when the data appeared to be readily available. For example, many companies extolled the virtues of energy efficiency programs and their contributions to costs savings, but few gave overall figures on investments in these areas or the actual dollar value of savings or returns on these investments.

Integrated Reporters' Comments on Integrated Reporting and Sustainability

In its third integrated annual financial and sustainability report, **American Electric Power (AEP)** pointed out, "Until now, there was no guidance on integrated reporting." However, it noted the progress being made by the International Integrated Reporting Council (IIRC), and it said it incorporated guidance from the IIRC's framework on integrated reporting "in an attempt to build upon the foundations of financial, management commentary, governance and sustainability reporting in a way that shows their interdependencies." AEP added, "The connections between environmental and social issues and our financial performance have caused us to rethink how we operate, the decisions we make, our approach to governance, how we conduct business and how we are perceived." AEP President & CEO Nicholas K. Akins added in his letter to shareholders:

> We will continue to identify specific, integral connections between our balance sheet, our daily operations and our responsibility to the environment and to society. By treating sustainability as a strategic investment, we expect to demonstrate that the strength and durability of these connections are vital to our growth and our long-term success. We believe this underpins our ability to deliver 4 percent to 6 percent annual earnings growth on average.

Clorox told shareholders, "This year, for the first time, we integrated our annual financial and corporate responsibility reports, bringing to life our innovative approaches in the areas of Performance, Products, People, Planet and Purpose. These five pillars represent the intersection of our business and social imperatives."

Dow Chemical said it had "infused the concept of sustainability into the very DNA of our Company. From the markets in which we choose to participate...to the R&D investments we make...and ultimately, to the solutions we develop...all are integrated with an eye toward solving world challenges."

Eaton Chairman & CEO Alexander M. Cutler told investors:

> When we first combined our annual and sustainability reports six years ago, it was far from the norm. In reality, we were simply a little ahead of the pack. And we've heartened to see so many companies follow our lead every year. The reason is simple: Sustainability isn't just a business function anymore; it is a business driver. That is especially true for Eaton, since our customers depend on us for safe, reliable, efficient and sustainable power management solutions. So the better we become at helping our customers solve their toughest sustainability challenges, the more our business can grow. And the more our business grows, the more we can help our customers—and the world—meet ever-tougher global challenges. So everyone wins.

Ingersoll Rand Chairman, President & CEO said:

> While we anticipate continued challenges throughout 2012, I am energized by the prospects of a promising future. Premier performance is all about understanding the critical, growing needs of a dynamic world and executing on a sustainable strategy to address those needs. Guided by our purpose to advance the quality of life by creating and sustaining safe, comfortable and efficient environments, Ingersoll Rand can and will make great contributions to a resource-constrained world.

Southwest Airlines told investors, "Our 2011 Southwest Airlines One Report comprehensively covers our financial, social, and environmental performance….Financial success is more than achieving fiscal metrics. Our long-term financial success is, in part, dependent on our future successes related to non-financial key performance indicators (KPIs) that serve as proxy measures of our ability to align operating costs with the true environmental and social costs of our actions."

Other times, benefits from time or money spent managing sustainability risks or opportunities proved hard to measure for companies. Many of the risks addressed were related to reputation with potential ramifications for overall brand value and potentially sales, as well as a company's ability to attract and retain employees and maintain a license to operate. Notwithstanding the ramifications, few companies had the ability to capture these data and translate them into dollars as bottom-line impacts. Other times, the financial metrics given were piecemeal, covering a single project. They almost never encompassed an entire issue area, reporting year or time series, making it difficult to discern how much these efforts contributed to the bottom line.

Incidence of Quantified Monetary Value	
Topic	*% with Dollar Value*
Hazardous Waste	11.1%
Environmental Management	9.9%
Waste Management	3.8%
Climate Change	3.0%
Mine Safety	3.0%
Water Use	2.2%
Labor	1.2%
Product Formulations	1.0%
Ethics	1.0%
Government Payments	0.4%
Human Rights	0.2%
Conflict Minerals	0.0%

However, when companies did find numbers to report, they most often reported on the costs associated with hazardous waste disposal, storage and remediation, followed by environmental management, waste management and climate change. Still, even where monetary values were offered, many unknowns remained and companies at times offered only limited data for specific projects. For example:

- **Environmental management—**Many firms offered detailed records of operating and capital expenditures about environmental management, as well as totals for fines, but none offered an accounting of returns on investments. A good example is **ExxonMobil.** It said its worldwide environmental expenditures in 2011 totaled $4.9 billion, including $1.6 billion in capital expenditures and about $3.3 billion in operating expenses. In 2011, it also paid 65 fines and settlements accounting for 0.03 percent of total environmental expenditures, or about $1.3 million. It also said it was committed to investing in technology that enabled it to develop innovative solutions to improve safety, minimize environmental impact, and maximize resource value. In this area, it said it had invested approximately $8 billion in research and development (R&D) during the past 10 years, and almost $2 billion on technologies related to safety and the environment.

- **Climate change—Intel** said it had invested more than $58 million and completed more than 1,563 projects, saving more than 825 million kWh of energy since 2001. The investments also enabled Intel to reduce energy costs in 2011 by $10.9 million, which will have lasting effects on its cost structure for years to come. It also said it has been successful in leveraging videoconferencing to facilitate collaboration among Intel's global teams and improving productivity, while reducing travel costs and travel-related emissions. On average, Intel said its network supports more than 600 videoconferences per week, and the practice saved in 2011 alone $73 million in travel expenses, 435,000 travel hours, and more than 65,000 metric tons of CO_2 emissions.

  In 2011, Intel also allocated $13 million for resource conservation and efficiency projects, including "the installation of more efficient lighting and system controls; boiler and chilled-water system improvements; and cleanroom heating, ventilation, air conditioning, and heat recovery improvements." One of the company teams competing in its annual environmental awards had developed a plan to reuse and optimize networking systems in Intel's offices, reducing annual energy costs by more than $22 million.

- **Water use—Hewlett-Packard** said in its sustainability report that many of its facilities, "including those in water-stressed regions, are taking steps to cut water use or use alternatives to freshwater sources." For example, it noted its facilities in Singapore have been using New Water—treated wastewater purified using microfiltration, reverse osmosis, and ultraviolet treatment, as well as conventional treatment processes—since 2007 to reduce water consumption. New Water, it noted, now accounted for more than two-thirds of the facilities' annual water consumption and is 20 percent cheaper than standard potable water, helping the company to save more than $3.5 million since 2007.

- **Hazardous waste—Baker Hughes**'s disclosure for environmental remediation in its 10-K filing was typical for the energy sector and contained many unknowns for investors. It noted that its total accrual for environmental remediation for 2011 was $29 million, down from $32 million in 2010, but said that "the determination of the required accruals for remediation costs is subject to uncertainty, including the evolving nature of environmental regulations and the difficulty in estimating the extent and type of remediation activity that is necessary."

- **Waste management—**In its sustainability report, **Dell** described its success with reducing packaging through its three-pronged strategy: reduce packaging size; use recycled or sustainable materials; and make packaging easily recyclable. Dell trumpets the program as among its industry's "most aggressive" in its use of "packaging reduction tactics" and "most innovative" in "uses of alternative packaging materials." It set a goal in 2008 to reduce its packaging volume by 10 percent by the end of 2012 and beat it. Its volume is now down 12.1 percent, and it has saved $18 million as a result.

- **Product formulations—**Among the most commonly noted sustainability issues for which companies report monetary values are product formulations. Companies had some very creative accounting to demonstrate cost savings, investments and revenues regarding product formulations. For example:

    - **Sprint Nextel** said its "device-collection programs continue to provide tremendous value to the company, capturing millions of used mobile devices, diverting them from landfills and even helping Sprint to avoid more than $1 billion in cost." Sprint Nextel explained that it was getting revenues from recycling, repurposing returned devices in its own operations, and reselling them to customers.

    - Meanwhile, **Goldman Sachs** said it financed $4.8 billion and co-invested more than $500 million in clean technology companies globally in 2011; it also served as a financial advisor on clean energy transactions valued at more than $6 billion.

    - **Proctor & Gamble** said it had generated $40 billion in cumulative sales of its Sustainable Innovation Products through 2011 and sought to add $10 billion to that total in 2012. It said it set a requirement that products in this segment post at least a 10 percent improvement in their overall environmental profile compared to previous or alternative versions.

- **Employment—**Many firms included dollar amounts for the costs of employee benefits programs, investments in employee professional development programs and restructuring expenses related to employee severance package, but few offered estimates on returns on investments regarding employment. However, **Pitney Bowes** noted its health and safety program produced a reduction in the total recordable injuries and normalized injury rates between 2010 and 2011, resulting in fewer work-related injury claims and expenses and $1.3 million in savings. Still, it fell short of providing a true return on investment analysis.

- **Human rights—Hershey Foods** said it was investing $10 million over the next five years in programs designed to improve farming practices and raise standards of living among farmers while promoting ethical labor practices, educational opportunities and socioeconomic growth in their communities. Its activities were aimed at guarding against reputational risks tied to child and forced labor in West Africa cocoa production. As with most financial disclosures about human rights, companies did not have metrics to measure the value-for-dollar proposition of investments aimed at mitigating these risks.

- **Ethics—**Most monetary values disclosed under the ethics banner were related to settlements, fines and litigation costs. For example, **American International Group (AIG)** reached a resolution of matters under investigation by the U.S. Department of Justice, the Securities and Exchange Commission, the Office of the New York Attorney General and the New York State Department of Insurance in February 2006 regarding allegations about accounting, financial reporting and insurance brokerage practices, as well as claims relating to the underpayment of certain workers' compensation premium taxes and other assessments. As a result, AIG made payments or placed amounts in escrow in 2006 totaling approximately $1.64 billion, $225 million of which represented fines and penalties. In addition to the escrow funds, AIG also deposited $800 million in a fund supervised by the SEC to resolve claims against AIG by investors, including securities class action and shareholder lawsuits. Another $597 million is being held in escrow to settle class-action liabilities related to workers' compensation premium reporting issues.

Company scores: As noted earlier, Si2 set up 113 binary data points in the study:

- Three for each issue area—risk, opportunity and monetary value—per document reviewed—10-K filing, annual report and sustainability reporting (90 points total).
- An MD&A inclusion check box for 10-K filings for each issue area (12).
- The discussion of environmental and other sustainability-related lawsuits and liabilities (2).
- The presence of integrated reporting statements in annual and sustainability reports (2).
- The use of GRI guidelines in annual financial and sustainability reports (2).
- Board diversity disclosures (2).
- Links between executive pay and sustainability performance on three broad issue areas—environmental, social and ethics (3).

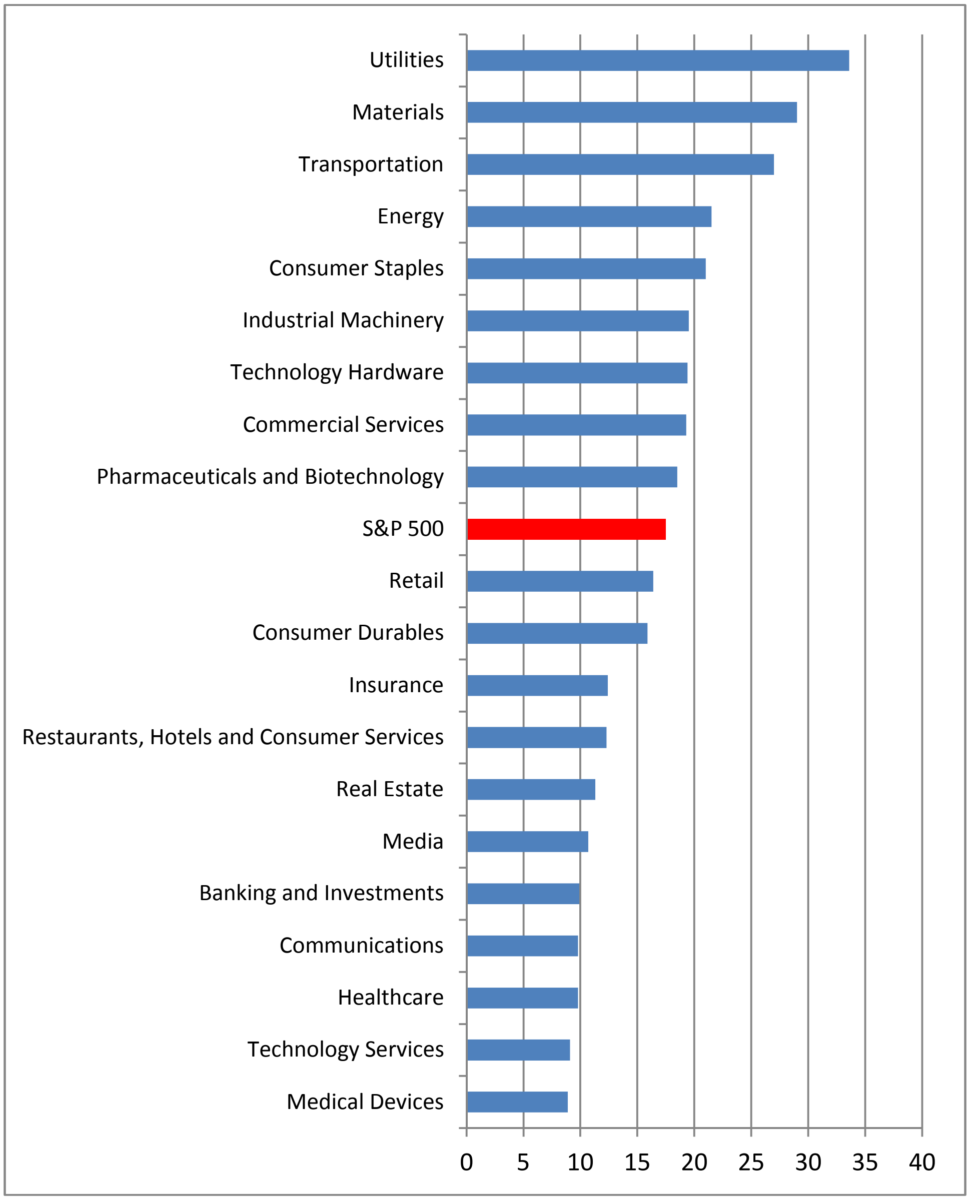
Companies with Highest Si2 Integrated Reporting Scores

Company	Total Points
1. American Electric Power	64
2. Waste Management	57
3. Newmont Mining	54
4. Intel	52
5. EMC	51
6. Best Buy	50
7. NextEra Energy	49
8. Dow Chemical (tied)	47
8. PG&E (tied)	
8. QUALCOMM (tied)	
8. Southwest Airlines (tied)	

The average score out of the 113 points available was 17.6 for the S&P 500 or 15.6 percent of the total points. *(See box for a list of top-scoring companies.)*

The main purpose of the scoring was to help select a company in each industry group to profile in the industry sections following this one. The logic was that the company profiled should have disclosed the most in the covered by the study, although information from other companies outside of this top-scoring subset are used throughout the report to illustrate best examples for some of the findings.

Among industries, utilities scored highest on average (33.6 points), followed by the materials (29) and transportation (27) sectors. The lowest ranking industries by total points were medical devices (8.9), followed by technology services (9.1) and healthcare (9.8). *(See bar chart.)*

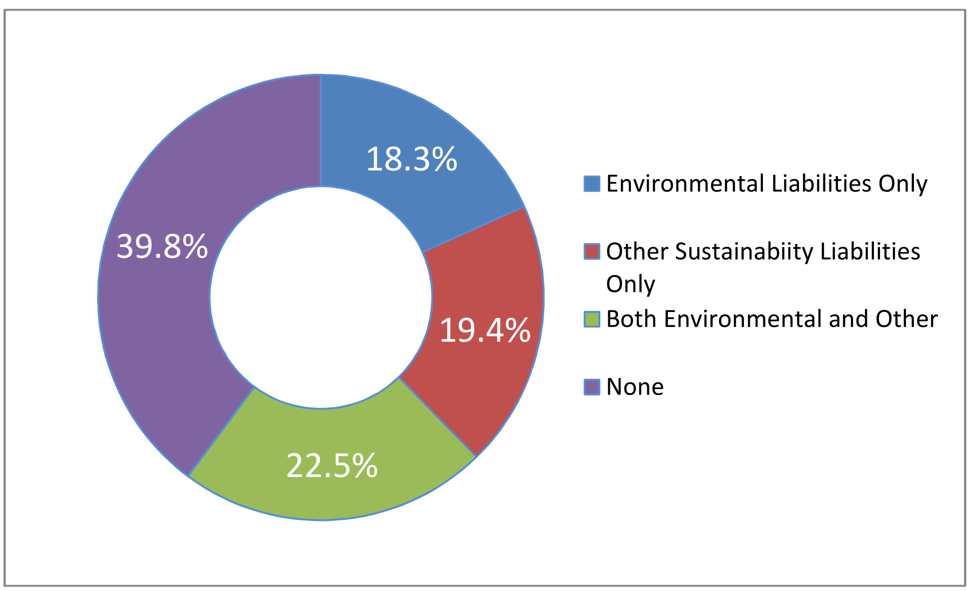


There was strong correlation between revenue and company scores. It was actually the second highest quintile of companies by revenue that had the highest scores—an average of 26.9 points among this grouping of 100 companies. The 100 companies with the highest revenue came in second on Si2's scale, with 23.4 points on average. Scores dropped off steadily outside the top two revenue tiers, falling from the middle tier companies (17.5 points on average), fourth quintile (11.3 points) and lowest quintile (8.5 points). This might indicate some barriers to integrated reporting by company size.

10-K filings: In 10-K filings, disclosures on hazardous waste were the most common topic among those studied, with nearly 58 percent of the firms saying something about hazardous waste. (*See table above.*) From a regulatory standpoint, this is not surprising, since companies must discuss liabilities and contingencies related to lawsuits with potential liabilities equal to or greater than 10 percent of their assets or fines equal to or greater than $100,000, as noted above in Section I. Rules likely drove the high percentage of 10-K disclosures related to climate change—nearly 50 percent say something on this point, which is the second most frequent type of disclosure—no doubt related to compliance with the January 2010 SEC interpretive guidance on climate disclosures. Information on environmental management closed out the top trio of disclosures with nearly 49 percent of companies saying something on this topic.

Aggregate Current Incidence of Sustainability Factors Discussed in S&P 500 Integrated Reports						
	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	5.2%	1.2%	[redacted]	[redacted]	[redacted]	[redacted]
Conflict Minerals	4.4%	0.2%	[redacted]	[redacted]	[redacted]	[redacted]
Government Payments	2.8%	0.2%	[redacted]	[redacted]	[redacted]	[redacted]
Climate Change	49.5%	11.7%	44.9%	17.9%	45.9%	43.1%
Environmental Management	48.7%	9.1%	41.9%	14.7%	44.1%	42.3%
Water Use	21.5%	4.6%	19.5%	7.8%	27.0%	23.1%
Hazardous Waste	57.7%	4.2%	47.5%	6.2%	21.1%	14.1%
Waste Management	25.2%	6.0%	23.1%	9.9%	34.6%	34.0%
Product Formulations	26.6%	13.1%	30.2%	19.5%	46.9%	46.9%
Employment	47.9%	16.3%	44.7%	20.7%	46.5%	45.7%
Human Rights	5.6%	0.4%	4.4%	0.6%	11.7%	6.2%
Ethics	26.4%	0.8%	22.5%	3.4%	23.5%	16.5%
Source: Sustainable Investments Institute (Si2), Washington, DC						

Another notable trend in 10-K filings is that companies were most likely to identify sustainability risks in this document than in annual or sustainability reports. There were, however, a few caveats by issue. For example, companies disclosed more risks related to water use, waste management, product formulations and human rights in sustainability reports. Conversely, companies were least likely to identify business opportunities related to sustainability challenges across all issues.



Closely related to these trends, 40.8 percent of the S&P 500 identified environmental contingencies and other liabilities in their 10-K filings, while slightly more—41.9 percent—disclosed other sustainability-related lawsuits, mostly surrounding product liability and discrimination lawsuits, employee worker health and safety claims, government fines and actions, as well as litigation related to fraud and other ethical lapses and shareholder derivative lawsuits associated with accounting regularities and other instances of alleged fraud. Almost 23 percent reported both types, and nearly 40 percent disclosed none. *(See pie chart.)*

By industry, the Energy (100 percent), Utilities (100 percent) and Materials (83.3 percent) sectors were most likely to disclose environmental liabilities, while Technology Services (3.4 percent), Banking and Investments (4.7 percent) and Healthcare (11.8 percent) industries were the least. For other sustainability-related liabilities, Healthcare (76.5 percent), Transportation (66.7 percent) and Insurance (63.6 percent) topped the lists, while Real Estate (6.3 percent), Technology Services (17.2 percent) and Consumer Durables (17.6 percent) were at the bottom.

Si2 also studied three types of disclosures unique to 10-K statements under new Dodd-Frank requirements. As discussed early, the SEC has promulgated rules recently about mine safety (December 2011), links to conflict minerals in supply chains (August 2012), and government payments for oil, natural gas and minerals exploration and development rights (August 2012). Si2 observed relatively low levels of disclosures among the S&P 500 in these areas for several reasons. First, only one was fully in force during the study period—mine safety, and all three only apply to small subsets of companies:

- **Mine safety** disclosure requirements only apply to owners and operators of mines in the United States. This rule was in full effect during the study period, and 5.2 percent of S&P companies filed exhibits based on the rule. The exhibits include violations reported to the U.S. Mine Safety and Health Administration (MSHA) and dollar amounts of associated fines.

- The **conflict minerals** disclosure rule was not in force during the study period, and it only applies to firms with ties through supply chains to conflict minerals in the Democratic Republic of the Congo (DRC) and surrounding areas involved in the violence there. The rule only applies to sellers of products containing the minerals, mostly manufacturers of electronic components and equipment such as cell phone and computers and products containing electronic components, such as household appliances, automobiles, aircraft and defense equipment. Those issuing disclosures in advance of the rule mostly warned investors that compliance with the rule could cause supply disruptions and have high costs associated with collecting data and finding alternative supplies. Overall, 4.4 percent of S&P 500 companies said something about the then-pending rules in their 10-K filings during 2012.

- The rule on **government payments** also was not in effect during the study period. As noted earlier, it only applies to companies engaged in the exploration and development of oil, natural gas and minerals. In advance of the rule, 2.8 percent of S&P 500 companies said something about these types of payments in their 10-K filings during 2012. All, as expected, were in the Energy and Materials sectors.

As noted earlier, the portion of the 10-K filing labeled Management's Discussion & Analysis (MD&A) is intended to give investors manage-

Management's Discussion & Analysis (MD&A)

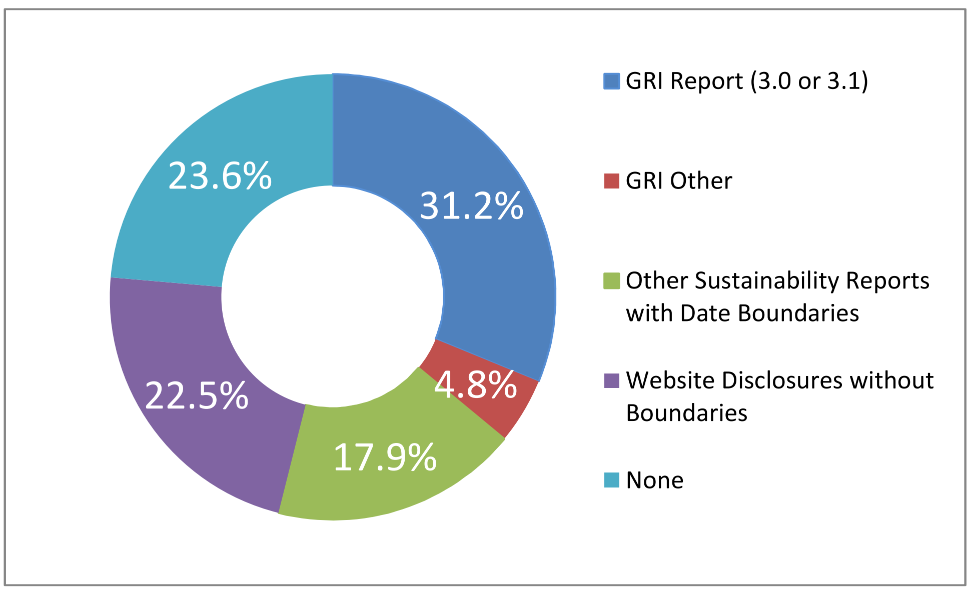
Topic	% of SP500 Discussing
Hazardous Waste	10.1%
Environmental Management	9.3%
Climate Change	9.3%
Product Formulations	5.0%
Waste Management	3.6%
Labor	3.2%
Ethics	2.6%
Water Use	2.4%
Mine Safety	0.6%
Government Payments	0.6%
Human Rights	0.4%
Conflict Minerals	0.4%

ment's take on significant factors, issues and events shaping the company's financial results and business prospects. An interesting trend emerging from Si2's research is that companies were far more likely to disclose sustainability-related risks and opportunities under descriptions of business operations and risk factors than in the MD&A itself.

MD&A discussion of sustainability issues mirrored trends in the overall 10-K filing, with hazardous waste, environmental management and climate change topping the list in the MD&A. But the percentages were far lower. For example, nearly 60 percent of companies discussed risks related to hazardous waste somewhere in their 10-K filings but only roughly 10 percent did so in the MD&A. Similarly, the overall percentage for environmental management risk disclosures in the 10-K was nearly 49 percent but dropped to 9.3 percent in the MD&A, and the spread for climate change risks was nearly 50 percent versus 9.3 percent. (*See box above.*)

Annual reports: Trends in disclosures of sustainability related risks and opportunities in company "glossy" annual reports followed those of 10-K filings. A big reason for this is that many companies—68.6 percent—only issued a 10-K filing or only included a short introduction, such as a letter to shareholders from the CEO or board, in their annual reports and attached the entire 10-K filing to the annual report. As such, much of the information was identical.

The study found interesting differences. Companies with substantially different 10-K filings and annual reports were nearly twice as likely to identify business opportunities related to sustainability challenges in their glossy annual reports. Also of note, companies were slightly less likely to point out sustainability-related risks in their annual reports than in their 10-K filings. In this regard, annual reports painted a far rosier view of sustainability issues than did 10-K filings.

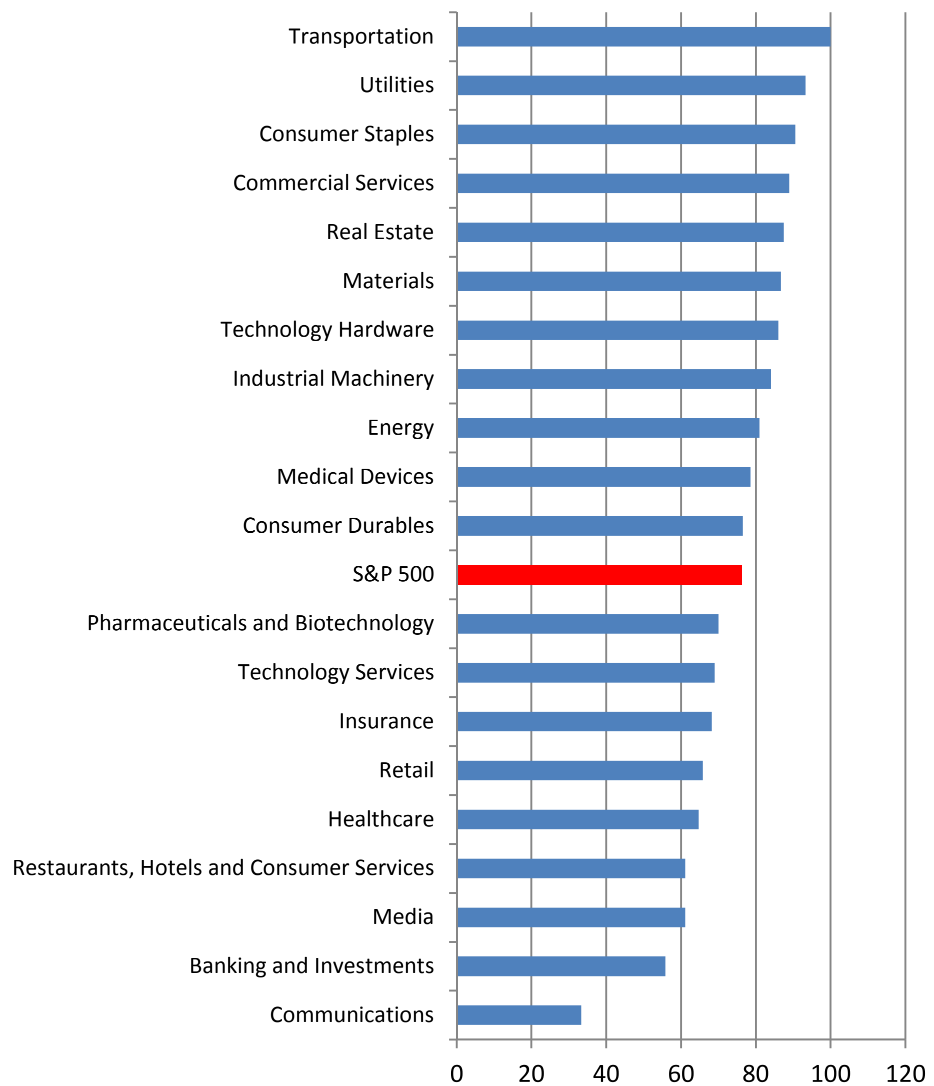


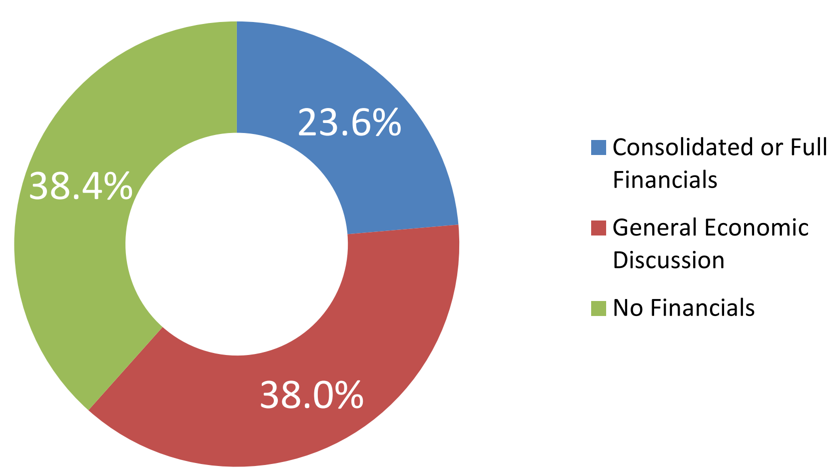
Sustainability reporting: Continuing the trend established in annual reports, sustainability reporting platforms—both standalone sustainability reports and portions of websites dedicated to sustainability topics—offered the sunniest prospects of all from companies regarding environmental, social and ethical challenges buffeting them. Companies were consistently at least three times more likely to discuss business opportunities born from addressing sustainability challenges in sustainability reporting mechanisms than in 10-K filings and at minimum twice as likely as in annual reports. This outcome was driven largely by companies describing products in production or under development with sustainability attributes, but it also reflected a greater willingness to talk about sustainability issues in a more positive light in sustainability reports. Risk disclosures in sustainability reporting paralleled companies' Form 10-K filings and annual reports with a few caveats.

Si2 saw a spike in risk disclosures in sustainability reporting related to water use, waste management, product formulations and human rights. Overall, 76.4 percent of the S&P 500 had some form of sustainability reporting, and 36 percent referenced the Global Reporting Initiative (GRI) framework. *(See pie chart.)*

By industry, Transportation (100 percent), utilities (93.3 percent) and Consumer Staples (90.6 percent) were the most likely to engage in some form of sustainability reporting, while Communications (33.3 percent), Banking and Investments (55.8 percent) and Media (61.1 percent) companies were the least likely.

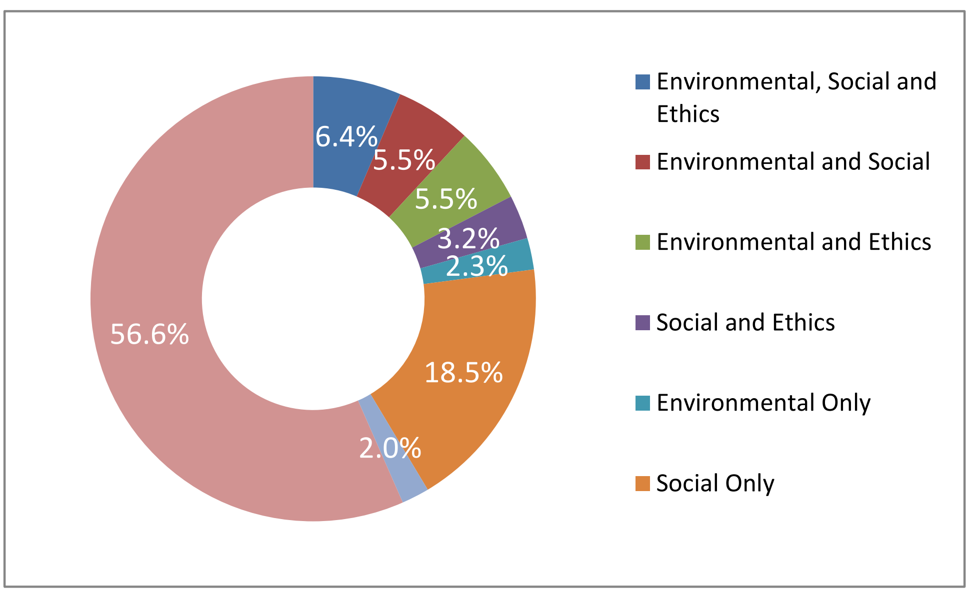
Si2 also found a strong correlation between sustainability reporting and revenue. The highest quintile of the S&P 500 by revenue exhibited a rate of sustainability of some form of 95 percent. This percentage fell to 88 percent for the second highest quintile, 76 percent for the middle, 66 percent for the fourth, and 56.7 percent for the lowest. This might indicate barriers to sustainability reporting for smaller companies.





Even though most champions of integrated reporting seek sustainability information in formal financial filings or "glossy" annual reports to shareholders, Si2 sought to test the viability of such reporting—from at least a feasibility standpoint—by seeing how many companies include financial reporting in sustainability reporting platforms. Si2 found that out of the 76.4 percent of the S&P 500 engaging in some form of sustainability reporting, most offered at least some financial reporting along with sustainability information. About 38 percent discussed general economic impacts and financial information regarding the company's operations, and almost 24 percent had consolidated or full financial statements in their sustainability reports (or published a fully integrated financial and sustainability annual report). By contrast, only 38.4 percent offered no financials with sustainability information. *(See pie chart.)* By industry, and still taking into account only those firms with some form of sustainability reporting and excluding non-reporters, Utilities (90 percent), Transportation (88.8 percent) and Materials (83.3 percent) sectors were the most likely to include some form of financial reporting with sustainability reporting, while Media (9.1 percent), Insurance (12.5 percent) and Real Estate (14.3 percent) industries were the least likely.

Proxy statements: Finally, Si2 analyzed companies' proxy statements for board diversity disclosures and links between executive pay and financial criteria. As noted earlier, the SEC enacted a rule in 2009, which came into effect in 2010, requiring companies to disclose their approaches to board diversity in proxy statements. In adopting the rule, the SEC cited several studies pointing to a strong correlation between gender and racial diversity on boards in the United States and financial performance. Si2 reviewed board diversity disclosures proxy filings to see if companies factored diversity into decisions regarding director nominations. We found that 37.2 percent of companies stated that gender and/or racial identity was a factor in director nominations. Transportation (77.8 percent), Healthcare (58.8 percent) and Utilities (50 percent) sector firms were the most often to factor racial and/or gender diversity in director nominations, while Communications (11.1 percent), Medical Devices (14.3 percent) and Technology Hardware (16.3 percent) companies were the least likely.



On pay links, Si2 found that 43.4 percent of the S&P 500 had linked executive pay to environmental, social and/or ethical issues, such as fraud, while 56.6 percent had no sustainability metrics factored. Of the three groupings of links studied, S&P 500 companies were most likely to tie executive pay to social criteria (33.6 percent of the S&P 500), followed by environmental issues (19.7 percent) and then ethical factors (17.1 percent). Of the social criteria cited, safety was the most widely used factor among the social factors, followed by various measures of employee retention, such as turnover rates, and diversity measures. Of environmental issues, links to goals for toxic spills, greenhouse gas emissions and energy efficiency were the most popular, while ethical factors included findings of misstatements of financials, as well as the numbers of reportable incidents of ethical breaches.

By industry:

- **Environmental**—Utilities (53.3 percent), Energy (45.2 percent) and Materials (26.7 percent) companies were the most likely to link executive pay to environmental criteria, while Banking and Investments, Commercial Services, Communications, Consumer Durables, Healthcare, Media, Medical Devices and Pharmaceuticals and Biotechnology firms all tied for last with no reported links.

- **Social**—Utilities (76.7 percent), Energy (61.9 percent) and Materials (50 percent) companies also grabbed the top three spots for links to social criteria, while Commercial Services (0 percent), Insurance (4.5 percent) and Consumer Durables (5.9 percent) were the least likely to have ties to executive pay in this area.

- **Ethics**—The Utilities (30 percent) and Energy (26.2 percent) sectors had the highest incidences of links between executive pay and metrics related to ethics, with real estate (18.8 percent) firms following. Commercial Services, Communications, Consumer Services, Media, Pharmaceuticals and Biotechnology and Retail companies all were least likely with 0 percent reporting links.

Industry summary: The following sections detail Si2's findings by industry sector and include sector overviews of key topics, as well as a profile of each sector's top-scoring company in Si2's evaluation. However, as an introduction, the following table lists in order from most likely in the second column and from least likely in the third column the top three industry sectors to be most likely (second column) and least likely (third column) to mention a particular topic—with a few caveats. Under the most likely banner, only two sectors discussed payments to host governments for oil, gas and mineral rights, so only those two are listed. In the least likely column, more than three sectors are mentioned when they tied for no discussions whatsoever and are noted accordingly.

Most and Least Likely Industry Sectors to Discuss Issues		
Issue	**Most Likely Sectors to Mention**	**Least Likely Industries to Cite**
Mine Safety	Materials, Energy, Commercial Services	All other industries except for Industrial Machinery and Utilities (tied for 0)
Conflict Minerals	Technology Hardware, Communications, Consumer Durables	All other industries except Energy (tied for 0)
Government Payments	Energy, Materials	All other industries (tied for 0)
Climate Change	Utilities, Transportation, Materials	Medical Devices, Media, Banking & Investments
Environmental Management	Utilities, Materials, Transportation	Communications, Healthcare, Banking & Investments
Water Use	Utilities, Energy, Materials	Media, Technology Services, Communications
Hazardous Waste	Utilities, Materials, Energy	Technology Services, Banking & Investments, Media
Waste Management	Transportation, Commercial Services, Materials	Insurance, Medical Devices, Healthcare
Product Formulations	Transportation, Utilities, Materials	Real Estate, Technology Services, Medical Devices
Employment	Transportation, Utilities, Materials	Real Estate, Communications, Medical Devices
Human Rights	Consumer Durables, Retail, Technology Hardware	Communications, Technology Services, Real Estate, Insurance, Healthcare, Medical Devices, Media, Transportation (tied for 0)
Ethics	Pharmaceuticals & Biotechnology, Transportation, Industrial Machinery	Communications, Real Estate, Technology Services

Detailed Findings

• Energy

The Energy sector included oil and gas companies, some with holdings in renewables, as well as coal mining companies, although other coal firms were classified in the materials sector. None in the sector had an integrated annual financial and sustainability report. Nonetheless, these companies demonstrated high levels of sustainability reporting in 10-K filings and annual reports, and to a lesser extent statements on financial implications for sustainability issues in corporate responsibility reports. Overall, Energy firms scored the fourth highest in this report's assessment of integrated reporting practices, with an average of 21.5 points compared with 17.5 for the S&P 500. They were more likely than other S&P 500 firms to engage in sustainability reporting (81 versus 76.4 percent).

The Energy sector exhibited the highest rates of disclosure for 10-K statements on risks related to government payments and climate change, as well as information in annual reports on risks and opportunities related to water use. The sector also ranked above average on most other risk disclosures in the 10-K and annual reports, but only for water use and hazardous waste in sustainability reporting platforms. Its top areas of risk cited over all disclosure documents were climate change, hazardous waste and environmental management; Energy firms were most likely to note opportunities in these areas too, along with water use and product formulations, although not at rates higher than the S&P 500. *(See table below.)*

These findings are not surprising, given the vast challenges related to spills and hazardous waste, greenhouse gas emissions, health and safety, community relations and operations in countries with poor human rights records prevalent in the industry. These realities for the Energy sector were evident in the frequency with which they disclosed environmental contingencies and other liabilities in 10-K filings—a 100 percent rate achieved only by one other sector, utilities—which was more than double the 40.8 percent average for the S&P 500. In addition, 38.1 percent in the sector disclosed other sustainability-related liabilities, about on par with the 41.9 percent average for the S&P 500.

Energy	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	23.8%	0.0%				
Conflict Minerals	2.4%	0.0%				
Government Payments	28.6%	0.0%				
Climate Change	100.0%	11.9%	85.7%	23.8%	42.9%	38.1%
Environmental Management	76.2%	7.1%	61.9%	14.3%	42.9%	28.6%
Water Use	64.3%	7.1%	57.1%	14.3%	35.7%	26.2%
Hazardous Waste	95.2%	2.4%	81.0%	9.5%	23.8%	7.1%
Waste Management	40.5%	2.4%	28.6%	2.4%	23.8%	21.4%
Product Formulations	28.6%	7.1%	38.1%	21.4%	42.9%	42.9%
Employment	42.9%	4.8%	45.2%	16.7%	42.9%	40.5%
Human Rights	11.9%	0.0%	9.5%	0.0%	2.4%	2.4%
Ethics	23.8%	2.4%	16.7%	2.4%	21.4%	14.3%

Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.

Areas where this industry group posted the highest percentage among all industries are highlighted in red.

Source: Sustainable Investments Institute (Si2), Washington, DC

Climate change: The Energy sector ranked the highest in the rate of 10-K disclosures on climate change and was the only sector with all firms disclosing risks on the topic in the 10-K. It also had higher rates than other sectors in disclosures of risks and opportunities related to greenhouse gas emissions in annual reports, and climate change was a top area overall for the sector in sustainability reporting. Disclosures here focused on risks related to regulations and how those risks posed financial implications for various product lines. For example:

- **Chesapeake Energy** says in its 10-K filing, "Legislative and regulatory proposals for restricting greenhouse gas emissions or otherwise addressing climate change could require us to incur additional operating costs and could adversely affect demand for the natural gas and oil that we sell." It says that "the potential increase in our operating costs could include new or increased costs to obtain permits, operate and maintain our equipment and facilities, install new emission controls on our equipment and facilities, acquire allowances to authorize our greenhouse gas emissions, pay taxes related to our greenhouse gas emissions and administer and manage a greenhouse gas emissions program."

However, some saw both downsides and upshots to regulation. For example:

- **ExxonMobil** observes, "Due to concern over the risk of climate change, a number of countries have adopted, or are considering the adoption of, regulatory frameworks to reduce greenhouse gas emissions…" including "cap and trade regimes, carbon taxes, restrictive permitting, increased efficiency standards, and incentives or mandates for renewable energy."

  ExxonMobil acknowledges that these requirements "could make our products more expensive, lengthen project implementation times, and reduce demand for hydrocarbons, as well as shifting hydrocarbon demand toward relatively lower-carbon sources such as natural gas," as well as increase "compliance costs, such as for monitoring or sequestering emissions."

  Still, it noted, "Many governments are providing tax advantages and other subsidies and mandates to make alternative energy sources more competitive against oil and gas" and are "promoting research into new technologies to reduce the cost and increase the scalability of alternative energy sources." ExxonMobil it is active in this area with its "sponsorship of the Global Climate and Energy Project at Stanford University and research into hydrogen fuel cells and fuel-producing algae."

Still others saw a distinct competitive advantage to potential regulation. For example,

- **Noble Energy** said that 61 percent of its 2011 total sales volume came from natural gas, a cleaner alternative to crude oil and coal. Therefore, management thought Noble was well suited to meet an increase for energy demands from cleaner-burning sources should regulation push consumers away from more carbon intensive fuels. It conceded, however, that its continuing crude oil assets would suffer. It also postulated that "should renewable resources, such as wind or solar power become more prevalent, natural gas-fired electric plants may provide an alternative backup to maintain consistent electricity supply." In addition, Noble thought it could benefit from growth in carbon capture and storage technologies, as well as greenhouse gas allowances or offsets from or government incentives for the sequestration of carbon dioxide.

Also on the minds of many oil and gas executives were the physical risks related to climate change, namely rises in sea level-related flooding and strong storms. For example:

- **Hess** said, “To the extent that climate change may result in more extreme weather related events, we could experience increased costs related to prevention, maintenance and remediation of affected operations in addition to costs and lost revenues related to delays and shutdowns.”
- **Murphy Oil** observed, “The physical impacts of climate change present potential risks for severe weather (floods, hurricanes, tornadoes, etc.) at certain of the Company’s refined product terminals in the U.S. and its offshore platforms in the Gulf of Mexico. Commensurate with this risk is the possibility of indirect financial and operational impacts to the Company from disruptions to the operations of major customers or suppliers caused by severe weather.”

Government payments: Energy firms were the most likely to disclose risks in 10-K statements related to payments to governments for mineral, oil and gas exploration and development rights, a Dodd-Frank requirement set to come into force in September 2013. Some companies warned shareholders about the pending requirements and the uncertainties surrounding them. For example:

- **Murphy Oil** noted that Dodd-Frank “requires companies in the oil and gas industry to disclose payments made to the U.S. Federal and all foreign governments. The SEC was directed to develop the reporting requirements in accordance with the law. The SEC has issued preliminary guidance and has received feedback thereon from interested parties. The preliminary rules indicated that payment disclosures would be required at a project level within the annual Form 10-K report beginning with the year ending December 31, 2012. The SEC has not issued final guidance regarding required disclosure. Therefore, it is expected that reporting will be delayed beyond year-end 2012. The Company cannot predict the final disclosure requirements that will be required by the SEC.”

Others framed the risks in this area for the company and shareholders:

- **Anadarko Petroleum** said in its 10-K filing that it has in the past and could incur in the future “substantial costs” related to “royalties and other amounts payable to governments or governmental agencies” for access to exploration and development rights.

Water use: As noted earlier, the Energy sector ranked highest in disclosure of risks—57.1 percent—and opportunities—14.3 percent—related to water use in annual reports. Water risks were a popular topic in 10-Ks, with 64.3 percent of Energy companies disclosing information. Energy firms engaged in hydraulic fracturing, a very water-intensive process for extracting natural gas from shale formations, were among the most likely to discuss water use. For example:

- **Marathon Oil** warned, “State level initiatives in regions with substantial shale resources have been or may be proposed or implemented to further regulate hydraulic fracturing practices,” which could potentially “limit water withdrawals and water use” and add costs or limit production for Marathon Oil’s operations.
- **QEP Resources** highlighted for investors in its 10-K that the EPA had commenced a study of the “potential environmental effects of hydraulic fracturing on drinking water and groundwater, with initial results expected to be available by late 2012 and final results by 2014.” In addition, it noted that “certain members of Congress have called upon the U.S. Government Accountability Office to investigate how hydraulic fracturing might adversely affect water resources.” It says, “these ongoing or proposed studies, depending on their degree of pursuit and any meaningful results obtained, could spur initiatives to further regulate hydraulic fracturing under the

federal Safe Drinking Water Act or other regulatory mechanisms," which could adversely affect QEP's operations and increase costs.

Some Energy companies had undertaken comprehensive assessments to evaluate risks related to water use. For example:

- **ExxonMobil** says in its sustainability report that it used the World Business Council for Sustainable Development's (WBCSD) global water tool to identify regions where it operates that may have water scarcity concerns and found the information useful in risk management. "Of our 115 major operating sites, we identified about 25 percent operating in regions that may have some degree of water stress or scarcity. These areas are located in 15 countries. In 2011, our upstream companies introduced a process to enhance water management. Since then, the quantity and quality of water use data have been significantly improved and a water foot-printing strategy has been instituted to better analyze our interactions with local water resources. In 2012, our major sites plan to review their water consumption rates to identify opportunities for responsible use. Those sites located in scarce or stressed regions plan to update their Environmental Business Plans to ensure effective water resource management."

For some, conserving water was a way to help the environment, mitigate risks, while saving some money:

- **Baker Hughes** notes in its sustainability report that water is "critical to our field operations and facility activities, as it is increasingly viewed as a scarce resource in many areas globally." It added its efforts to reduce water use not only mitigated risk by decreasing its overall water consumption by 28 percent, but also saved it a net $550,000 per year.

Hazardous waste: Energy companies almost universally cited the Comprehensive Environmental Response, Compensation and Liability Act (Superfund), the Emergency Planning and Community Right-to-Know Act, the Toxic Substances Control Act, the Clean Air Act, the Clean Water Act, the Cross-State Air Pollution Rule (CSAPR) and the Mercury and Air Toxic Standards Rule (MATS). They said these regulations added costs to their own operations, as well as those of their end users, by prompting the installation of costly control technology or the implementation of other measures that included trading of emission allowances and switching to alternative fuels.

This was particularly acute for coal mining firms. For example:

- **CONSOL Energy** said existing and pending regulations on emissions levels "will likely make it more costly to operate coal-fired electric power plants and may make coal a less attractive fuel alternative for electric power generation in the future." Apart from actual and potential regulation of emissions from coal-fired plants, CONSOL noted, "state and federal mandates for increased use of electricity from renewable energy sources could have an impact on the market for our coal."

Concerns surrounding fluids used in hydraulic fracturing also were common, but some saw opportunities:

- **Halliburton** said that in response to fears surrounding the toxicity of hydraulic fracturing fluids and potential effects on drinking water that it began offering "detailed information regarding our fracturing fluid composition and breakdown" on its website and "proactively developed processes to provide our customers with the chemical constituents of our hydraulic fracturing fluids to enable our customers to comply with state laws as well as voluntary standards established by the Chemical Disclosure Registry, www.fracfocus.org."

At the same time, Halliburton said it had "invested considerable resources in developing our CleanSuite hydraulic fracturing technologies, which offer our customers a variety of environmental friendly alternatives related to the use of hydraulic fracturing fluid additives and other aspects of our hydraulic fracturing operations." In particular, it "created a hydraulic fracturing fluid system comprised of materials sourced entirely from the food industry" and "engineered a process to control the growth of bacteria in hydraulic fracturing fluids that uses ultraviolet light, allowing customers to minimize the use of chemical biocides."

Oil spills were another key topic. Litigation risks continued to loom surrounding the Deepwater Horizon spill in the Gulf of Mexico, as did costs resulting from the related drilling moratorium and new regulations to ensure the safety of deepwater operations enacted in response to the accident. For example:

- **Anadarko Petroleum** said in its 10-K that it could still be subject to claims and liabilities relating to the Deepwater Horizon events, even following a settlement agreement with BP that indemnified Anadarko against such losses. Anadarko disclosed that the agreement with BP had cost it $4 billion, not including the assets it transferred to BP representing its interest in the Macondo well.

  Anadarko added that additional "deepwater drilling laws and regulations, delays in the processing and approval of drilling permits and exploration and oil spill response plans, and other related developments arising after the deepwater drilling moratorium in the Gulf of Mexico may have a material adverse effect on our business, financial condition, or results of operations." It further noted that new regulations and rules in the wake of the accident from the Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE), including new workplace safety rules aimed at reducing human and organizational errors and mandatory third-party auditing procedures, were increasing its costs, although it didn't tell investors by how much.

Companies' ocean tankers and other oil and gas transport assets, including pipelines, as well as onshore operations, including refineries, also prompted disclosures of spill risks. For example, **Sunoco** warned investors that its "business is subject to hazards and risks inherent in refining operations and the transportation and storage of crude oil and refined products," including "explosions, fires, spills, adverse weather, natural disasters, mechanical failures, security breaches at our facilities, labor disputes and maritime accidents, any of which could result in loss of life or equipment, business interruptions, environmental pollution, personal injury and damage to our property and that of others."

As discussed earlier, hazardous waste was an area where S&P 500 companies were most likely to disclose actual costs for compliance with regulatory requirements. This was the case for the Energy sector, too, although uncertainties abounded. Most companies did so in the context of disclosing capital expenditures for environmental controls, as well as cleanup costs, fines and contingencies for litigation. **Baker Hughes**'s disclosure, for example, for environmental remediation was typical for the industry and contained many unknowns for investors. It noted that its total accrual for environmental remediation for 2011 was $29 million, down from $32 million in 2010. But it said, "the determination of the required accruals for remediation costs is subject to uncertainty, including the evolving nature of environmental regulations and the difficulty in estimating the extent and type of remediation activity that is necessary."

Environmental management: Many Energy firms—nearly 80 percent in 10-K statements, more than 57 percent in annual reports, and nearly 43 percent in sustainability reports—discussed investments in environmental management systems to mitigate environmental risks. This included those discussed above related to air emissions and spills of hydrocarbons and other hazardous substances. For example, **Cam-**

eron International in its 10-K statement described its implementation of an environmental management system based on the principles of ISO 14001 and OHSAS 18001—two standards frequently cited throughout the Energy sector and the S&P 500.

Many firms measured the effectiveness of these systems by reporting spill and employee health and safety data in annual and sustainability reports, but none offered investors a detailed cost-benefit analysis for them. But many cited benefits. For example, **ExxonMobil** noted in its sustainability report that its process safety management system "prevents the uncontrolled release of hydrocarbons and other hazardous substances to avoid significant incidents with potential for serious injuries and fatalities, widespread environmental impacts, and property damage." Similarly, **Hess** said that its environment, health and safety management systems "may, in the short-term, increase the Corporation's operating costs and could also require increased capital expenditures," but that they also reduced "potential risks to assets, reputation and license to operate" and yielded "improved productivity and operational efficiencies."

Employment: These issues were among the middle tier of disclosure topics for the Energy industry—about 41 percent for risks in 10-Ks, 30 percent for risks cited in annual reports and 40 percent in sustainability reports. The areas covered varied widely and 43 percent also cited opportunities (in the sustainability reports). In addition to investments in environmental, health and safety systems, Energy companies frequently spoke about investing in people, as well as the importance of workplace diversity, although they also warned of risks related to strikes, work stoppages and other labor disruptions. For example:

- On opportunities, **ConocoPhillips** says in its sustainability report, "A diverse and inclusive environment challenges our way of thinking by bringing together a variety of talents, backgrounds and experiences, and serves as a catalyst for new ideas and innovation." It also spoke of its strategic "People Plan," aimed at recruiting and retaining the best talent and holding managers accountable through pay links. "We monitor the progress on our People Plans twice a year to help drive accountability," it said. Further, "We review demographic information on nationalization, recruiting, attrition, promotion, and the identification and development of future leaders. These metrics plus the efforts taken are used to assess progress and ensure that operating plans are successfully executed. The results of these metrics and efforts are assessed and tied to the performance-based incentives for managers and supervisors."
- By contrast, on risks, **Peabody Energy** said in its 10-K filing, "We could be negatively affected if we fail to maintain satisfactory labor relations….If some or all of our current non-union operations were to become unionized, we could incur an increased risk of work stoppages, reduced productivity and higher labor costs. Also, if we fail to maintain good relations with our union workforce, we could experience labor disputes, work stoppages or other disruptions in production that could negatively impact our profitability."

Waste management: Albeit a small risk and potential opportunity for Energy firms in comparison to the many other environmental and social issues in play throughout the sector, Energy firms still reported at a healthy clip about risks related to management of non-hazardous wastes. More than 40 percent reported in 10-Ks, almost 29 percent in annual reports and almost 24 percent in sustainability reports. About a fifth—almost all in sustainability reports—had something to say about tangible cost savings and other financial opportunities. For example, **Schlumberger** described in its sustainability report how its Reusing Packaging Cuts Costs and Waste Better program improved the environmental impact of its shipment crates for tools. It says the program is saving the company more than $74,000 per year by reducing the size of crates and reusing certain components from other shipments in fabrication. The program also found a way to recycle plastic streamer components, shaving $130,000 per year from the company's costs.

Product formulations: About a third of Energy firms discussed risks related to products in their 10-K statements and 40 percent in annual reports and sustainability reporting, where more were apt to discuss opportunities. As noted earlier, many of these disclosures related to climate change risks and spoke to a potential dwindling demand for carbon-intensive fuels. But others spoke to potential markets for renewables and products and services addressing these risks. For example:

- **Murphy Oil** highlighted for investors in its 10-K the completion of its Clean Fuels Project at its Meraux refinery, making it one of the first refineries to produce 100 percent ultra-low sulfur diesel for on-road use in advance of governmental regulations in 2003 and the start-up of similar operations at its Superior refinery in 2010; completion of an underwater pipeline for capturing emissions from its Malaysia operations in 2008; purchase of two renewable energy Biofuels (Ethanol) facilities; one in 2009 and another in 2010; and startup of its Cogeneration facilities at Milford Haven refinery in 2010.
- **Valero** noted in its 10-K that it is now one of the largest corn ethanol producers and operates a 50-megawatt wind farm. It also described its investments in emerging biofuels technologies such as the generation of diesel from recycled animal fat and cooking oil, and ethanol from cellulosic feedstocks and municipal solid waste.
- **ExxonMobil** highlighted in its 10-K statement more than $2 billion in investments in the last decade on technologies related to safety and the environment. It says it is always seeking opportunities to invest in technologies that "lower energy use, maximize resource value, enhance our product offering, and contribute to competitive advantage."
- **Schlumberger** described a suite of diversified services to address environmental risks, including: Water Services specializing in the development, management and environmental protection of water resources; and Carbon Services providing comprehensive geological storage solutions including storage site characterization for carbon dioxide. It sees growing revenues and profits in these product lines.

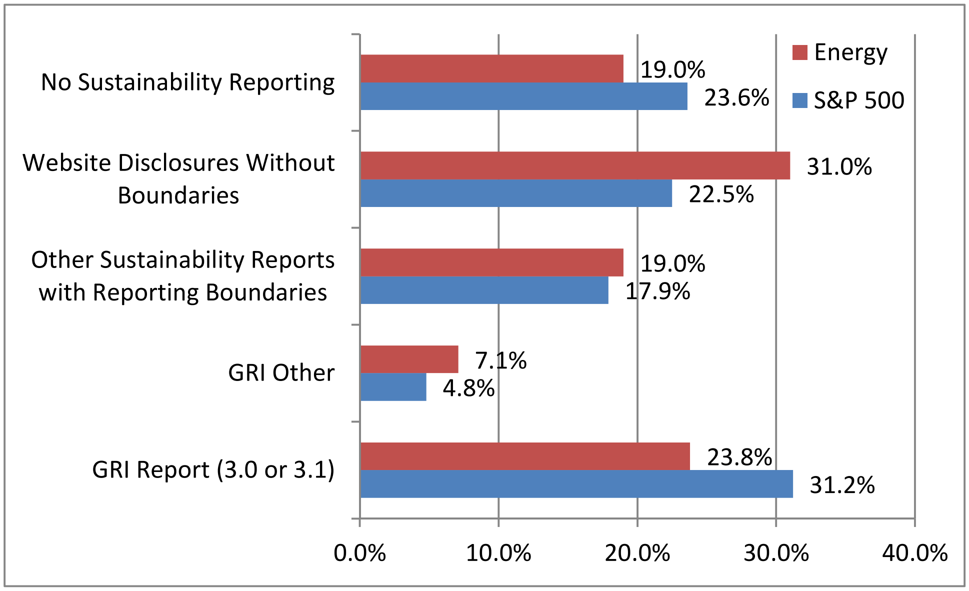
Mine safety: Almost a quarter of Energy firms—23.8 percent—were engaged in mining activities and included exhibits in their 10-K statements in compliance with Dodd-Frank related requirements.

Other areas: Energy companies were less inclined than others in the S&P 500 to discuss:

- **Ethics**, although more than a fifth discussed these risks in 10-K statements, especially surrounding compliance with the Foreign Corrupt Practices Act (FCPA).
- **Human rights**, with about a tenth discussing risks in 10-K and annual financial reports related to security in conflict zones.

Sustainability reporting: Energy firms were slightly more inclined to engage in sustainability reporting (81 percent) than the broader S&P 500 (76.4 percent), but they were less likely to use the Global Reporting Initiative's 3.0 or 3.1 guidelines to do so. *(See chart, next page.)* Energy firms did beat averages for the S&P 500 for website disclosures with no reporting boundaries, mostly detailing policies and examples a few programs, as well as other types of sustainability reports with boundaries and a reporting timeframe.

Financials in sustainability reports: Of the Energy firms with some form of sustainability reporting, 18 percent included full or consolidated financials with this reporting, less than the 23.6 percent average for other S&P firms with sustainability reporting. However, 47 percent of Energy companies with sustainability reporting offered some general economic data on the company, ahead of the S&P average of 38 percent.



Board diversity: The Energy sector ranked in the middle of the heap for factoring gender and racial diversity into deliberations over director nominations, with 35.7 percent indicating they took diversity into consideration, slightly below the S&P 500 average of 37.2 percent.

Pay links: However, Energy companies were the second most likely to have links between executive pay and environmental (45.2 percent), social (61.9 percent) and ethical (26.2 percent) factors, well ahead of the averages for the S&P 500 in these areas (13.3 percent for environmental, 27.2 percent for social and 10.7 percent for ethical). It was bested in these areas by utilities.

Points: On the assessment scale used in this report, the Energy sector came in fourth overall among all sectors; it had an average of 21.5 points and beat the S&P 500 average of 17.5 points. **CONSOL Energy** came in first with 42 points. *(See profile, below.)*

Sector Profile: Consol Energy

CONSOL is one of the largest coal mining companies in the United States, with approximately 4.5 billion tons of proved reserves and annual production of 62.6 million tons spread among 16 mining complexes—mainly in northern and central Appalachia and the Illinois Basin. CONSOL primarily mines high BTU coal, which burns cleaner than lower grades, and principally sells to electric utilities and steel mills. It also owns transportation assets, including railroad cars, terminals and barges, to deliver its coal. In addition, CONSOL engages in natural gas exploration and production, with 3.7 trillion cubic feet of net proved natural gas reserves and annual production of about 153.5 billion cubic feet coming from 15,000 wells, mostly extracted with hydraulic fracturing in Appalachia. Given the nature of its operations, climate risks figured prominently in its securities filings and sustainability disclosures, as did hazardous waste. In addition to extensive disclosures in its 10-K filing, and to a lesser extent in its annual report, it produced a sustainability report based on GRI's 3.1 guidelines, but did not include a reporting level or index. The following is a recap of the highlights from its regulatory filings and reports.

Mine safety: In its 10-K filing, CONSOL Energy says it "is one of the safest mining companies in the world," and that its health and safety programs "include extensive employee training, accident prevention, workplace inspection, emergency response, accident investigation, regulatory compliance and program auditing" aimed at eliminating workplace incidents and complying with all mining-related regulations. For 2011, it reported $6.8 million in potential fines from the Mine Safety and Health Administration (MSHA), 214 legal actions initiated in 2011 related to mine safety incidents, 274 cases resolved and 214 still pending.

Climate Change: In its 10-K, CONSOL Energy speaks volumes about the "regulation of greenhouse gas emissions as well as uncertainty concerning such regulation." It fears such developments could "adversely impact the market for coal and natural gas" and "may increase our operating costs and reduce the value of our coal and gas assets." Specifically, it says:

- While federal climate change legislation in the United States is "unlikely in the next several years," it notes that public concern is mounting worldwide along with regulations, and U.S. states are already adopting measures requiring reductions of greenhouse gas emissions within state boundaries.
- Even without federal climate change legislation, CONSOL says that the "federal Clean Air Act and similar state laws and regulations, which regulate emissions into the air, affect coal mining, coal handling and processing, and gas production and processing operations primarily through permitting and/or emissions control requirements."
- Government also affects it by "extensively regulating the air emissions of the coal fired electric power generating plants operated by our customers."
- In addition, CONSOL notes, "the EPA promulgated or finalized several rulemakings impacting coal generating facilities" in 2011, including "the Cross-State Air Pollution Rule to regulate sulfur dioxide (SO2), nitrogen dioxide (NOx) and fine particulate matter; and the Utility Maximum Achievable Control Technology (Utility MACT) rule which sets new mercury and air toxic standards and includes more stringent new source performance standards (NSPS) for particulate matter (PM), SO2 and NOX."
- Further, "the EPA is proposing to establish NSPS for Green House Gas (GHG) emissions from new electric generating units and proposed regulations to establish GHG emission limits for new and modified electric generating units."

CONSOL also highlights that capital markets are moving to mitigate climate risks with Wall Street's largest investment banks announcing that they had adopted climate change guidelines for lenders, including "evaluation of carbon risks in the financing of electric power generation plants which may make it more difficult for utilities to obtain financing for coal-fired plants." (A 2013 shareholder resolution to PNC Financial raised this issue.)

CONSOL underscores that coal contains "impurities, such as sulfur, mercury and other constituents, many of which are released into the air when coal is burned," and "carbon dioxide, a greenhouse gas, is also emitted when coal is burned." At the same time, it notes, coalbed methane, which "has a greater greenhouse gas effect than carbon dioxide," must be expelled from its "underground coal mines for mining safety reasons." While it attempts to capture methane before it vents to the environment, its operations still have significant emissions.

As a major coal producer, all of these factors place pressure on CONSOL from a demand side—decreasing markets for its coal to utilities and other traditional users—as well as costs for compliance and obtaining favorable credit. To address these challenges, it says that it aims "to increase energy production efficiencies, develop and research key technologies, and partner with our fuel users to improve efficiency in their operations, thereby decreasing both our direct and life-cycle emissions profile."

Environmental management: CONSOL Energy notes in its 10-K that it made capital expenditures for environmental control facilities of $53.1 million in 2011, $39.9 million in 2010 and $50.4 million in 2009—primarily related to starting construction of a water processing system at its Buchanan Mine. CONSOL Energy also entered into six consent decrees in 2010 and 2011 that totaled approximately $8.5 million. The largest was the Northern West Virginia Chlorides consent decree negotiated with the EPA and the West Virginia Department of Environmental Protection concerning chloride effluents in excess of legal limits. It also discusses its companywide implementation of the OHSAS 18001 standard.

Water use: In its sustainability report CONSOL Energy notes, "Water is an essential natural resource for our production processes, needed for coal and gas operations, product preparation, dust management, drilling, human consumption and numerous other uses. We utilize a holistic water management approach to manage water-related risks, to minimize our impacts and to operate efficiently." It also published some limited water use data, including total water withdrawn by source and volume recycled and reused.

Hazardous waste: CONSOL Energy says in its 10-K that the federal Clean Water Act (CWA) and corresponding state laws "affect coal and gas operations by regulating discharges into surface waters," and "these requirements may cause CONSOL Energy to incur significant additional costs that could adversely affect our operating results, financial condition and cash flows." CONSOL also notes concerns surrounding chemicals used in fluids in its natural gas hydraulic fracturing operations and the overall safety of those operations could lead to regulation, saying "the imposition of new environmental initiatives and regulations could include restrictions on our ability to conduct hydraulic fracturing operations or to dispose of waste resulting from such operations." In addition, CONSOL says, "The Comprehensive Environmental Response, Compensation and Liability Act (Superfund) and similar state laws create liabilities for the investigation and remediation of releases of hazardous substances into the environment and for damages to natural resources." It adds that it "could incur liability under CERCLA relative to our coal or gas operations," and its "current and former coal mining operations incur, and will continue to incur, expenditures associated with the investigation and remediation of facilities and environmental conditions, including underground storage tanks, solid and hazardous waste disposal and other matters under Superfund and similar state environmental laws."

Employment: In its 10-K filings, CONSOL reports on its contract negotiations with the United Mine Workers of America, which represents 32 percent of its employees. It noted increased costs due to a new contract. In its sustainability report, it focused on safety, noting that the nature of its operations required diligence in this area, and safety is of key importance because "it concerns our most important asset: our people." It said it made $138 million in investments in safety-related structural improvements to its mines, equipment and training, all aimed at achieving its goal of zero accidents. It noted improvements in its recordable injury frequency rate of 16.3 percent and lost day incident rate of 20.6 percent in 2011, although it also reported one company and one contractor fatality. It also describes employee wellness and other benefits programs to help attract and retain talent.

Ethics: In its sustainability report, CONSOL reviews the importance of its ethics programs to the company's overall reputation.

Board diversity: CONSOL does not maintain a separate policy regarding the diversity of its board.

Pay links: CONSOL says in its proxy statement that it tied certain primary goals and objectives to its executive annual incentive pay in 2011, including certain environmental health and safety metrics: "Improving and being an industry leader in health and safety by continuing CONSOL's efforts to achieve a zero incident rate and implementing other major health and safety initiatives" was one factor, as was "continuing to improve environmental compliance and providing industry leadership in the area of the environment." It also evaluated top management on its ability to "develop the best organizational structure for efficiency, communications, and management development," as well as "continuing to enhance CONSOL's corporate image and build its reputation as a leader in energy and environmental policy, as a community leader, and as a responsible corporate citizen," as well as "enhancing the corporation's image as an employer." A final area for incentive pay was "managing potential adverse risk associated with new governmental regulations that will impact our business."

(CONSOL had no disclosures related to **government payments** or **human rights**.)

- ## Materials

The Materials sector—spanning metals and mining, chemicals, construction materials, packaging, and paper and forestry products companies—exhibited above average reporting on nearly all issues reviewed across 10-K filings, annual financial reports and sustainability reporting platforms. It was the second highest ranking sector in SI2's evaluation, behind only utilities. It also included one of the seven integrated financial and sustainability reporters identified by the study—**Dow Chemical**. Materials firms were the most likely to report mine safety risks in 10-K filings, not surprising since mining activities among the S&P 500 were focused in this group. These firms were also the second most likely to report on risks related to hazardous waste and opportunities related to government payments. For the sector itself, hazardous waste, climate change and environmental management were areas with the most disclosures. As with most sectors and the broader S&P 500, Materials firms were more likely to disclose sustainability risks in 10-K statements than anywhere else, and opportunities related to sustainability in sustainability reporting platforms. *(See chart below.)*

The sector also was an above average reporter of environmental factors (83.3 percent compared to 38 percent for the S&P 500)—behind only Utilities and Energy firms—and other sustainability related liabilities related to lawsuits, fines and remediation efforts (46.7 percent compared to 41.9 percent for the S&P 500). The sector ranked fifth out of the 20 in the S&P 500 for the rate of firms issuing some form of sustainability reporting, as well as board diversity statements, and it was third for environmental and social executive pay links.

Materials	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	33.3%	6.7%				
Conflict Minerals	3.3%	0.0%				
Government Payments	6.7%	3.3%				
Climate Change	90.0%	23.3%	76.7%	30.0%	63.3%	63.3%
Environmental Management	83.3%	20.0%	83.3%	33.3%	63.3%	56.7%
Water Use	33.3%	10.0%	33.3%	13.3%	60.0%	40.0%
Hazardous Waste	96.7%	3.3%	86.7%	3.3%	50.0%	26.7%
Waste Management	43.3%	23.3%	40.0%	23.3%	60.0%	60.0%
Product Formulations	30.0%	26.7%	30.0%	30.0%	70.0%	70.0%
Employment	56.7%	16.7%	56.7%	16.7%	66.7%	63.3%
Human Rights	6.7%	0.0%	6.7%	0.0%	23.3%	13.3%
Ethics	13.3%	0.0%	16.7%	6.7%	30.0%	20.0%

Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.

Areas where this industry group posted the highest percentage among all industries are highlighted in red.

Source: Sustainable Investments Institute (Si2), Washington, DC

Hazardous waste: The most oft-mentioned risk among Materials companies in 10-K filings (96.7 percent) and annual reports (86.7 percent), hazardous waste, also earned the sector the distinction of having the highest percentage of companies mention it among all industries. The Materials sector also posted above average reporting rates in comparison to the S&P 500 for risks and opportunities related to hazardous waste mentioned in sustainability reporting platforms.

For the industry, hazardous waste was a key regulatory compliance concern. First, for chemicals manufacturers, many needed to grapple with regulations affecting their product lines. For example:

- **DuPont** detailed in its 10-K filing requirements under the European Union's regulatory framework concerning the Registration, Evaluation and Authorization of Chemicals (REACH). These came into force in 2007 and require manufacturers and importers to gather and register information on the properties of their substances that meet certain volume or toxicological criteria. While it "has successfully integrated REACH registration requirements into its safety, health & environment processes and timely met all such requirements to date," DuPont notes, "REACH also contains a mechanism for the progressive substitution of the most dangerous chemicals when suitable alternatives have been identified." Therefore, it says, "Depending on which chemicals are identified, the requirement to use safer alternatives could necessitate changes in production processes," which might impose additional costs on the company.

Still others in the sector saw more traditional risks surrounding the generation, disposal and storage of hazardous waste. For example:

- **Eastman Chemical** said in its 10-K filing, "Certain Eastman manufacturing sites generate hazardous and nonhazardous wastes of which the treatment, storage, transportation, and disposal are regulated by various governmental agencies. In connection with the cleanup of various hazardous waste sites, the Company, along with many other entities, has been designated a potentially responsible party ("PRP") by the U.S. Environmental Protection Agency under the Comprehensive Environmental Response, Compensation and Liability Act, which potentially subjects PRPs to joint and several liability for such cleanup costs." In addition, the company notes, it "will be required to incur costs for environmental remediation and closure and post-closure under the Federal Resource Conservation and Recovery Act." Eastman Chemical said it established reserves for these contingencies, based on estimated future environmental expenditures for remediation costs ranging from the minimum or best estimate of $11 million to the maximum of $29 million at December 31, 2011.

However, others saw business opportunities that could reduce costs and spur productivity improvements among employees. For example:

- **Weyerhaeuser** explained in its sustainability report that reducing chemical risk is one of its principal focus areas. It has adopted a chemical management policy that "sets clear expectations for no new purchases of products containing polychlorinated biphenyls, asbestos or lead-based paints and restricted use only of products containing chlorinated solvents, mercury compounds or aerosol propellants." At the same time, Weyerhaeuser said it was focusing on reducing the "overall number of chemical products used through improved inventory management and on improving the accuracy of our chemical product inventory by eliminating outdated records." Altogether, it said, "these efforts reduce the risk of chemical exposures and improve employee access to chemical product information through Material Safety Data Sheets (MSDS)," thereby reducing overall costs and increasing worker productivity.

Climate change: Materials companies exhibited higher than average reporting of risks and opportunities related to climate change across in all types of reports examined in the study. While regulation reigned supreme as a chief risk, the industry saw plenty of opportunities for profits, as well. DuPont and Air Products & Chemicals offer good examples of this duality:

- In its 10-K filing, **DuPont** said it "believes that climate change is an important global issue that presents risks and opportunities." It noted that it "has made its overall portfolio less energy and emissions intensive, reducing 2010 absolute energy use by 6 percent since 1990 while significantly increasing production," and sourcing "6 percent of 2010 total energy use from renewable resources." In addition, it said, it "continuously evaluates opportunities for existing and new product and service offerings in light of the anticipated demands of a low-carbon economy," and some "$1.6 billion of the company's 2010 revenue was generated from sales of products that help direct and downstream customers reduce greenhouse gas (GHG) emissions."

  On regulation, DuPont said it "is actively engaged in the effort to develop constructive public policies to reduce GHG emissions and encourage lower carbon forms of energy." While "proposed and existing legislative efforts to control or limit GHG emissions could affect the company's energy source and supply choices as well as increase the cost of energy and raw materials derived from fossil fuels," such developments would offer the business community "greater certainty for the regulatory future, help guide investment decisions, and drive growth in demand for low-carbon and energy-efficient products, technologies, and services." It reviewed existing laws and regulatory prospects for investors in its 10-K, in addition to detailing its improvements in emissions and products addressing climate challenges.

- **Air Products & Chemicals** described similar prospects and approaches in its 10-K filing, explaining that it operates in several jurisdictions that "have, or are developing, regulations governing emissions of greenhouse gases (GHG)," including "existing and expanding coverage under the European Union Emissions Trading Scheme; mandatory reporting and reductions at manufacturing facilities in Alberta, Canada; and mandatory reporting and anticipated constraints on GHG emissions in Ontario, Canada and South Korea." In addition, it noted, "the U.S. Environmental Protection Agency is regulating GHG emissions for new construction and major modifications to existing facilities." At the U.S. state level, it also pointed out, "California's "cap and trade program rules have been officially adopted and our compliance obligation as a hydrogen producer is set to begin 1 January 2013."

  While existing rules and future regulations being pondered in the backdrop of "increased public awareness and concern" about climate change could increase its costs, Air Products told investors it expects to be able to "mitigate some of the costs…related to consumption of electric power, hydrogen production, and fluorinated gases production…through our contractual terms." At the same time, it says, "regulation of GHG may also produce new opportunities for us." It explained that it continues "to develop technologies to help our facilities and our customers lower energy consumption, improve efficiency, and lower emissions" and also is "developing a portfolio of technologies that capture carbon dioxide from power and chemical plants before it reaches the atmosphere, enable cleaner transportation fuels, and facilitate alternate fuel source development." In addition, it said, "the potential demand for clean coal and our carbon capture solutions could increase demand for oxygen, one of our main products, and our proprietary technology for delivering low-cost oxygen."

Still others saw clear cost-cutting opportunities:

- **Owens-Illinois** said in its annual report that energy is a strategic focus for the company both to address climate change and to trim costs and boost profits, as it "represents a large portion of Owens-Illinois' global manufacturing expenditures." It therefore has set a goal to cut its energy consumption in half by 2017, which "not only will lessen the company's reliance on fossil fuels, but also will significantly reduce its CO2-equivalent emissions and improve its cost structure."

Success, it said, "will hinge on replicating best practices validated by research and development…" Among the projects already underway, it noted, were: "implementing new global procedures that will optimize furnace operations...piloting programs to reuse waste heat from its manufacturing operations… preheating raw materials and generating power it could sell to local communities…investigating modifications to the composition of raw materials to reduce emissions and melt glass more efficiently and tapping the emerging field of carbon capture to convert CO2 into a reusable product." These new ways to recycle CO2, it said, "hold great promise for the company, industry and environment."

- Similarly, **Dow Chemical** said in its annual report that its "energy-efficiency efforts have prevented more than 95 million metric tons of carbon dioxide (CO2) from entering the atmosphere and contributed cost savings of $24 billion." In addition, it notes, its insulation products contribute to greater energy efficiency, "helping to avoid hundreds of millions of metric tons of CO2 emissions each year," while increasing its sales. In fact, it said, "the emissions avoided as a result of these products outpace Dow's own emissions by more than six times on an annual basis."

Environmental management: Throughout the Materials sector, the use of environmental management systems to mitigate risks related to spills, waste disposal and health and safety matters abounded and were among the third most likely type of risk disclosure for the industry. It also was a source of opportunity for many firms, and Materials companies were more likely than other S&P 500 companies to make environmental management disclosures in all types of documents. These risks were especially acute for mining firms. For example:

- **Freeport-McMoRan Copper & Gold** explained to investors in its 10-K filing that it is "subject to various domestic and international environmental laws and regulations that govern the discharge of pollutants, and disposal of wastes, and which may require that we investigate and remediate the effects of the release or disposal of materials at sites associated with past and present operations." Therefore, it said, "We could incur substantial cleanup costs, fines, civil or criminal sanctions, third party property damage or personal injury claims as a result of violations or liabilities under these laws or non-compliance with environmental permits required at our facilities." In fact, it disclosed, "We are currently involved in the investigation and remediation of a number of our current and former sites as well as third party sites."

  Notwithstanding these challenges, Freeport said, "We consider environmental compliance to be an integral part of our operations," which is why it has implemented "a comprehensive environmental management and reporting program that focuses on compliance with all federal, state, regional and local environmental laws and regulations."

- Meanwhile, **Alpha Natural Resources** detailed its "science-based" approach to environmental management in its sustainability report, which it said included the overlay of "a robust governance structure and set of policies, standards and processes aimed at avoiding or mitigating our environmental impacts," as well as "regular internal and independent external audits." Alpha said it closely monitors its environmental performance as a strategic priority, which it measures by its rates of compliance with applicable regulations. In 2011, Alpha had a total of 279 environmental violations resulting in $180,700 in fines.

However, steelmakers and other types of firms in the industry followed similar trends in reporting:

- **Nucor** explained in its 10-K filing that it "operates an aggressive and sustainable environmental program that incorporates the concept of individual employee as well as management responsibility for environmental performance." It noted that all of its steelmaking operations are ISO

14001 certified, have environmental management systems with measurable targets and objectives, such as reducing the use of oil and grease and minimizing electricity use, and had implemented site-wide recycling programs. It said these programs were helping it to mitigate environmental risks and keep its environmental expenditures to "less than $100 million per year." It said it remained diligent in this area, as "environmental compliance and remediation could result in substantially increased costs and materially adversely impact our competitive position."

However, Nucor explained, there were downsides. It pointed out that it is subject "to numerous federal, state and local laws and regulations relating to protection of the environment," and that these "laws are becoming increasingly stringent, resulting in inherent uncertainties in these estimates." At the same time, it said, "To the extent that competitors, particularly foreign steel producers and manufacturers of competitive products, are not required to incur equivalent costs, our competitive position could be materially adversely impacted."

Mine safety: As the sector containing the vast majority of the mining operations in the S&P 500, Materials was the top industry reporting mine safety risks, and these included exhibits related to Dodd-Frank requirements for all of the mining firms in the sector, detailing statistics on workplace accidents, injuries, fatalities and related fines. For example:

- **Alpha Natural Resources** in its 10-K filing reviews the requirements covering its mining operations included in the Coal Mine Health and Safety Act of 1969, the Federal Mine Safety and Health Act of 1977, and the MINER Act of 2006, which it collectively described as the "most comprehensive and pervasive systems for protection of employee health and safety affecting any segment of U.S. industry" and a "significant" contributor to its operating costs. It noted that these rules were tightened in the wake of the Massey Energy Upper Big Branch Mine disaster in West Virginia in 2010. (Alpha Natural Resources purchased Massey Energy in 2011.)

  Alpha said, "The costs, liabilities and requirements associated with addressing the outcome of inspections and complying with these environmental, health and safety requirements are often significant and time-consuming and may delay commencement or continuation of exploration or production." For example, it noted, "in December 2011, we entered into a comprehensive settlement with MSHA in which we resolved various outstanding MSHA civil citations, violations and orders related to the UBB explosion and other matters for approximately $34.8 million. It also said that the permitting processes associated with these regulations cause it to incur substantial costs and frequently delay its development activities.

  Notwithstanding these challenges, Alpha Natural Resources says that the Mine Safety and Health Administration data disclosed in its 10-K "have consistently been recognized with numerous local, state and national awards over the years for outstanding safety performance."

Government payments: Another Dodd-Frank requirement looming for the Materials sector—payments to governments for the exploration and development of oil, gas and mineral rights—wasn't a top area of disclosure for the sector, but it did lead the sector to have the second highest disclosure rate in the S&P 500 behind Energy firms. Disclosures in this area were fairly rudimentary, and, as a source of future business prospects, touched upon opportunities for mining firms.

- **Newmont Mining** offered a typical example. It said in its 10-K filing that it conducts "mining and exploration activities pursuant to concessions granted by, or under contract with, the host government," including authorities in Australia, Canada, Ghana, Indonesia, Mexico, New Zealand, Peru and Suriname. "The concessions and contracts," Newmont said, "are subject to the political risks associated with foreign operations" and changes in the terms for the percentages of royalties it receives, albeit sources of revenues at the same time.

Employment: In step with trends exhibited throughout the S&P 500, Materials companies disclosed risks, including strikes and other work stoppages, health and safety incidents, and costs of benefits programs, as well as opportunities, including programs aimed at promoting the recruitment and retention of valuable employees and workplace diversity. As noted earlier, Materials firms exhibited higher than average disclosure rates for employment issues.

Employee recruitment and retention was a common focus among firms across the sector, and many companies described benefits and other programs to attract and keep workers, albeit without a full analysis of the effectiveness of these programs or investments. Still, many sent some mixed messages on the topic:

- **Praxair** said in its 10-K filing that if it "fails to attract, hire and retain qualified personnel," it "may not be able to develop, market or sell its products or successfully manage its business," as it is "dependent upon its highly skilled, experienced and efficient workforce to be successful." It noted that its employees' collective experience and expertise was the source of its "competitive advantage," especially in the areas of "marketing, technology, manufacturing and distribution infrastructure, systems and products."

  At the same time, while competitive benefits programs were key in retaining these employees, the costs associated with them had their own perils, according to Praxair. It also said that "risks related to our pension benefit plans may adversely impact our results of operations and cash flows," as "pension benefits represent significant financial obligations that will be ultimately settled in the future with employees who meet eligibility requirements." It cited many "uncertainties" involving "estimating the timing and amount of future payments and asset returns," and said that "significant estimates are required to calculate pension expense and liabilities related to the company's plans."

For many, workplace relations also were key risks, especially for firms with highly unionized workforces:

- **Allegheny Technologies** said in its 10-K filing that approximately 47 percent of its workforce is covered by various collective bargaining agreements, "principally with the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union. It described for investors newly finalized collective bargaining agreements with USW-represented production, office and maintenance employees and others, but also noted that when these and others expire, unresolved matters could result in strikes. "A strike by the employees covered by one or more of the collective bargaining agreements could have a materially adverse effect on our operating results," Allegheny said.

Still others spoke of opportunities and placed dollar figures on cost savings from various initiatives:

- **PPG Industries** reviewed the effectiveness of its employee health and safety program in its sustainability report. It highlighted that it had reduced its injury and illness rate by 68 percent since 2000 and was adjusting programs to ensure a continued downward trend. One aspect of its program focused on ergonomics, it said, was yielding particularly positive results. It said 62 projects focused on reducing injuries and illnesses attributable to deficiencies in ergonomics had saved the company more than $3 million per year in injury prevention and production efficiency costs.

Promoting workplace diversity also was a key business objective for many. For example:

- **Alcoa** said in its sustainability report, "Our people are the foundation of our success throughout the world, and we foster a high-performance culture that develops talent and promotes teamwork." A key part of this workplace vision, it says, is diversity, and it sets annual diversity targets for all of its divisions and managers and ties a portion of their compensation to achieving these goals. It set out in 2011 to improve the representation of women and minorities and tied compensation to meeting these targets. It said 20 percent of its variable compensation plan was dedicated to sustainability metrics, and 10 percent was solely focused on diversity. It paid out at 10.3 percent—higher than originally planned—as managers had exceeded goals.

Waste management: While in the middle range of topics disclosed by Materials firms, waste management was still a key concern for many, especially those involved in forestry and paper. For example:

- **International Paper** described in its 10-K-filing research and development activities it had undertaken, including: studies on innovation and improvement of pulping, bleaching, chemical recovery, papermaking, converting and coating processes; packaging design and materials development; mechanical packaging systems, environmentally sensitive printing inks and reduction of environmental discharges; re-use of raw materials in manufacturing processes; and recycling of consumer and packaging paper products, among others.

  It invested $38 million in these programs between 2009 and 2011 and said it had started seeing returns on these investments. In addition, International Paper noted that it recycles approximately one million tons of corrugated cardboard and mixed and white paper through its 20 recycling plants, which it turns into new products and revenue streams.

Water use: Water was a critical resources for both mining and manufacturing firms in the Materials sector and one holding risks, reported by about 60 percent overall and a third in 10-K filings and annual reports. Water scarcity also held the promise of profitable products for a few:

- **Freeport-McMoRan Copper & Gold** explained to investors in its 10-K filing that its operations "require significant quantities of water for mining, ore processing and related support facilities." Location compounds risks for the company since its "North and South America are in areas where water is scarce and competition among users for continuing access to water is significant." Its mines in Arizona and Colorado are embroiled in various legal disputes over rights to water, some of them for decades, and its Cerro Verde mine in Peru is subject to disruptions tied to occasional droughts that stand to be exacerbated by climate change, according to Freeport.
- In contrast, **Ecolab** says in its 10-K filing that its water services division provides water and process applications aimed at combining environmental benefits with economic gains for its customers. "Typically, water savings, energy savings, maintenance and capital expenditure avoidance are among the primary sources of value to our customers," it says, which include aerospace, chemical, pharmaceutical, mining and primary metals, power, food and beverage, medium and light manufacturing and pulp and papermaking industries—as well as institutional clients such as hospitals, universities, commercial buildings and hotels.
- **Sigma-Aldrich** is taking aim at cost savings, which it details in its sustainability report. As part of its overall sustainability initiative it is trying to improve the efficiency of its water use by 10 percent, using a base of 1.8 million cubic meters of water used, to generate revenues of $2.271 billion for 2010. Beyond the immediate cost reductions, the company says it is "preparing for a

day when water is priced at its true value instead of the price point that we have been able to purchase it and receives the same attention that carbon is currently receiving."

Product formulations: As outlined already, the Materials sector sees many opportunities posed by climate risk, and more than a quarter disclosed such opportunities in 10-K filings and annual reports, while 70 percent did so in sustainability reporting platforms:

- **Alcoa** said in its 10-K filings that it is focusing "on product development to support sustainable, profitable growth," including "manufacturing technologies to improve efficiencies and reduce costs," as well as environmental risks. Its environmental technologies address emissions reductions, the reduction of spent pot lining, advanced recycling, and the beneficial use of bauxite residue.
- **Dow Chemical** said in its annual report that it seeks to double the percentage of sales to 10 percent for products that are highly advantaged by sustainable chemistry. Its current product line includes its Dow Water and Process Solutions with "investments in reverse osmosis technology and production capacity are addressing the need for a clean, affordable water supply."

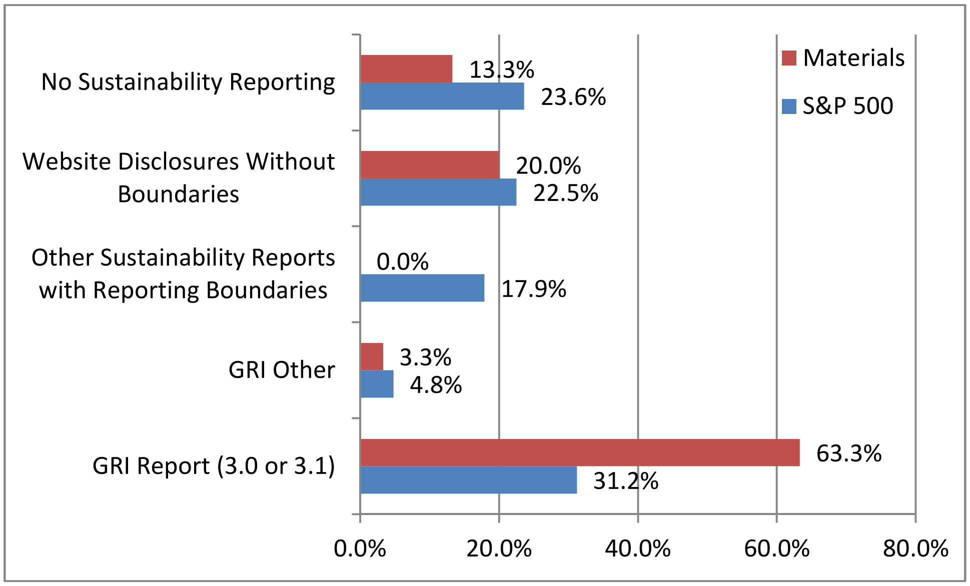
  On the renewable energy front, systems for wind energy "are enabling the adoption of larger, more efficient turbine blades," and its AgroSciences division leads in solutions to make agriculture more sustainable and reduce global greenhouse emissions. In addition, Dow Energy Materials "provides an integrated portfolio of component materials for large lithium-ion battery manufacturers," and Dow Kokam will manufacture advanced lithium-ion batteries that are designed for strong passing power, quick recharges and long-lasting durability."
- **DuPont** said in its sustainability report that it seeks to increase annual revenue by at least $2 billion from products that create energy efficiency or otherwise significantly reduce greenhouse gas emissions. DuPont noted it is already a major player in the solar industry and developer of photovoltaic materials critical to crystalline silicon and thin film solar cells and modules. It is focusing on bringing the cost of solar energy in line with other forms of power generation to encourage "faster and broader adoption of solar energy" and help "reduce the dependence on fossil fuel."

Human rights: While only a topic reported on by less than a tenth of Materials firms in 10-K filings and annual reports and a fifth in sustainability reporting, human rights was still a central theme for many of the mining firms in the sector. For example, **Freeport-McMoRan Copper & Gold** reveals in its sustainability report that there were 32 shooting incidents in and around its Grasberg mine in Indonesia between July 2009 and February 2012, resulting in 15 fatalities and 56 injuries. It also had a fatality at the mine related to a strike that spurred a confrontation between police and strikers on October 10, 2011. As a result, it said, "security of our workforce is a critical concern."

Ethics: The Foreign Corrupt Practice Act was again a theme in the Materials sector and the subject of several 10-K disclosures. Broadly, corruption was viewed as a material risk by several Materials companies, including **Freeport-McMoRan Copper & Gold**, which said in its sustainability report that "Violations of anti-corruption laws could result in criminal liability, serious fines and imprisonment. Reputational harm from the violation of anti-corruption laws can be significant."

Conflict minerals: Risks related to Dodd-Frank disclosures were not a major topic for all in the Materials sector, but **Freeport-McMoRan Copper & Gold** has operations in the Democratic Republic of the Congo (DRC)—a mine in the Tenke Fungurume minerals district in the Katanga province—and detailed numerous risks related to those operations and security matters in its 10-K filing. It supplements its private security force there with assistance from the national government, for which it provides food, housing, monetary allowances and logistical support as well as direct payments to the government. It says its operations there are at significant "risk of loss due to civil strife, acts of war, guerrilla activities, insurrection and terrorism," as well as "security risks due to the remote location in the southern DRC and violence in the northeastern provinces of the DRC." In addition, political instability and corruption place its operations in the DRC in jeopardy of "cancellation or renegotiation of mining contracts by the government; legal and regulatory uncertainties, governmental corruption and bribery;" and "royalty and tax increases or claims by governmental entities, including retroactive claims…"

Sustainability reporting: Firms in the Materials sector were the sixth most likely to issue some form of sustainability reporting, with nearly 87 percent doing so, well ahead of the S&P 500 average of 76.4 percent. The sector beat the overall S&P 500 handily in the number of companies issuing reports using GRI's 3.0 or 3.1 guidelines, with 63.3 percent doing so. Overall, 66.7 percent of the sector reference GRI compared to the S&P 500 average of 36 percent. *(See chart.)*



Financials in sustainability reporting: Of those issuing sustainability reports, 36.6 percent added consolidated or full financials, and 46.7 percent offered some form of economic analysis of their operations. Only 16.7 percent had no financial information alongside sustainability disclosures. The Materials sector was the third least likely overall to include financials in sustainability reporting.

Board diversity: Materials companies ranked fifth in taking race or gender into consideration when nominating board directors, with 46.7 percent doing so, well ahead of the S&P 500 average of 37.2 percent. For example, **International Paper** says in its proxy statement, "The Governance Committee Charter specifically directs the Committee to seek qualified candidates with diverse backgrounds, including but not limited to such factors as race, gender, and ethnicity. The satisfaction of these criteria is implemented and assessed through ongoing consideration of directors and nominees by the Governance Committee and the Board, as well as through the Board's annual self-evaluation process."

Sustainability pay links: Materials firms also ranked well ahead of S&P 500 average in linking executive pay to sustainability criteria. They were twice as likely as the S&P 500 average (13.3 percent) to have executive pay linked to environmental criteria, with 26.7 percent doing so. The sector also came in third on social criteria with half having such links, nearly double the S&P 500 average of 27.2 percent. For ethics, Materials firms slipped to sixth with 13.3 percent having such links, still slightly greater than the

S&P 500 average of 10.7 percent. **Praxair** hit all three, tying annual executive pay incentives to, among other factors, "safety and environmental performance including zero fatalities and sustained improvement in safety rates; employee engagement and people development including strengthening a globally diverse leadership pipeline, and an increase in community support activities;" and "global control/compliance initiatives, programs and trainings" related to its ethics code.

Points: The average score for Materials firms was 29 points, the second highest in the S&P 500 and well above the 17.5 average. **Newmont Mining** had 54 points for its disclosures (and the third highest overall score); it is profiled below.

Sector Profile: Newmont Mining

Newmont Mining is among the world's largest gold producers, with significant assets or operations in the United States, Australia, Peru, Indonesia, Ghana, New Zealand and Mexico. Environmental, health and safety risks dominated its discussions of sustainability, especially as they pertain to regulations, and its operations in the Democratic Republic of the Congo (DRC) and Indonesia raised security and human rights concerns. Newmont's sustainability report followed GRI's 3.0 guidelines and was verified as an A+ level report. It also had a board diversity statement and executive pay links to sustainability metrics.

Environmental management: In its 10-K filing, Newmont points to risks related to laws and regulations protecting the environment, which it says are "continually changing" and "generally becoming more restrictive." Newmont says it "believes its operations are in compliance with applicable laws and regulations in all material respects," although several of its mines, both partially and wholly owned, were subject to legal proceedings and reviews by the EPA and Department of the Interior. It said it accrued environmental contingencies of $1.07 billion in 2011, including for increased water treatment costs and additional heap leach facilities at Yanacocha, an increase in the tailings area at Boddington, an expansion of the operating footprint at Batu Hijau in Indonesia and historic mining operations primarily related to additional water management costs. It also highlighted for investors that all of its operations had achieved ISO 14001 certification by the end of 2011.

Human rights: Newmont discussed economic and political risks related to its Batu Hijau operation in its 10-K filing. Among these were outbreaks of political and religious violence and acts of terrorism common in Indonesia over the past two decades. Newmont and the Indonesian government have ongoing legal proceedings regarding the timeframe for the transfer of ownership of Batu Hijau to the Indonesian government, and the mine has been the subject of numerous environmental controversies related to the disposal of tailings into the ocean and waste rock into the local rainforest. A new case has also been filed recently on behalf of a class of Indonesian citizens. These issues, as Newmont discloses in its 10-K and sustainability report, have raised human rights concerns from indigenous populations near its opeations. In addition, Batu Hijau was the site of demonstrations by the local community in 2011, which Newmont says were related to "a worker recruitment process." These and similar incidents, it says, threaten its ability to operate and could harm its earnings.

Climate change: In its 10-K, Newmont says, "Regulations and pending legislation governing issues involving climate change could result in increased operating costs which could have a material adverse effect on our business." It explains, "Producing gold is an energy-intensive business, resulting in a significant carbon footprint." Energy costs, it says, accounted "for about a quarter of our overall operating costs, with our principal energy sources being purchased electricity, diesel fuel, gasoline, natural gas and coal." Given the stakes, Newmont says it is "committed to managing climate change related risks and responsibly managing greenhouse gas emissions."

Newmont has disclosed its GHG emissions annually to the Carbon Disclosure Project since 2004 and by 2010 established programs to report publicly its independently-verified GHG emissions for all its operations. The sustainability report noted its energy efficiency investments were "highly cost-effective, being significantly less expensive than building new power plants, power lines, or burning more fuel" and enhanced "the reliability of electricity supplies by reducing system loads and stresses." It also said carbon sequestration offset projects, including forestry, represented "a cost-effective component of our emissions reduction strategy and provide shared value to local communities near our operations."

Mine safety: Newmont says in its 10-K that mine safety is a "core value" and that it strives for "superior performance in this area." It complied with Dodd-Frank requirements and disclosed 325 citations related to its 15 U.S. mines, none of which resulted in actual decreed orders or violations. It paid $210,000 related to these citations.

Government payments: In its 10-K, Newmont notes that it conducts "mining and exploration activities pursuant to concessions granted by, or under contract with, the host government," including activities in Australia, Canada, Ghana, Indonesia, Mexico, New Zealand, Peru and Suriname. It acknowledges that these concessions and contracts are subject to "political risks." It told investors that revenues associated with royalties for mines in Ghana, Indonesia and Peru were at most risk.

Hazardous waste: Newmont includes a discussion in its 10-K of various regulatory requirements regarding hazardous wastes and notes various risks to investors, highlighted above under environmental management. In addition, Newmont noted that the EPA was seeking to regulate as hazardous waste under the Resource Conservation and Recovery Act (RCRA) "process solution streams derived from core beneficiation operations, such as our roasting operations, in Nevada." It explained, "Historically, such streams have been considered exempt from RCRA and have been regulated by the Nevada Division of Environmental Protection. The regulation of these streams as hazardous waste under RCRA could subject us to civil and criminal penalties for past practices and require us to incur substantial future costs to modify our waste water collection systems and retrofit our tailings storage facilities at our Nevada mining operations, which could have an adverse effect on our results of operations and financial position."

Water use: In its sustainability report Newmont says, "In water-constrained locations around the world, the mining industry must justify its use of water in direct competition with other users. We understand that water is not only integral to our operations, it is a vital resource for the nearby local communities and natural ecosystems. As a result, we invest significant resources to understand and appropriately manage the water resources in the areas where we mine, ensuring that stakeholder interests and concerns with respect to water management are identified and addressed to the best of our ability." It also reports water use metrics.

Employment: Newmont discusses employee health and safety risks extensively throughout all of its disclosures and offers metrics, although it provides little financial discussion of them. Its sustainability report also emphasizes the importance of employee recruitment and retention, and diversity initiatives.

Ethics: In its sustainability report, Newmont says, "Corruption, such as the payment of bribes to government officials, can distort markets, stifle growth, and undermine the rule of law." It noted it actively monitored compliance with its ethics code and considered these activities a key business imperative.

Board diversity: Newmont says its corporate governance and nominating committee considers race, gender and national origin, as well as age, in choosing director nominees.

Pay links: Sustainability is listed as a strategic goal for Newmont's executive officers and as a factor for annual incentive pay, measured by "continuing to improve our safety performance; continuing evolution to a process-driven culture; maintaining our industry-leading environmental, social and community relations commitments; remaining a leading member of the Dow Jones Sustainability World Index; and investing in people."

• Industrial Machinery

The Industrial Machinery sector had the distinction of being the only industry with two firms with fully integrated annual and financial reports—**Eaton** and **Ingersoll-Rand**. The sector includes aerospace and defense firms, building products, construction and engineering, as well as construction and industrial equipment and industrial conglomerates. Companies in the sector reported many environmental risks. It exhibited higher than average disclosures, especially in the areas of climate change, product formulations, employment and ethics, and on ethics it was the most likely industry to note financial risks, with nearly 41 percent doing so. Several of the firms also had possible links to conflict minerals in the Democratic Republic of the Congo (DRC), leading to a handful of disclosures and an above average rate compared to other sectors. The higher levels of disclosure also were evidenced in the sector's average score—19.5, which was 2 points higher than the average for the S&P 500. Within the industry, hazardous waste, environmental management, employment and climate change were the most frequent topics mentioned. *(See table.)*

As with other industries disclosing above average rates of environmental risks, Industrial Machinery also had more than the typical share of environmental liabilities disclosures—72.7 percent and nearly double the S&P 500 average of 38 percent. The sector also edged out others for other sustainability-related liabilities, with half disclosing these, slightly above the S&P 500 average of 41.9 percent.

Industrial Machinery	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	4.5%	2.3%				
Conflict Minerals	4.5%	0.0%				
Government Payments	0.0%	0.0%				
Climate Change	50.0%	13.6%	56.8%	29.5%	54.5%	54.5%
Environmental Management	65.9%	6.8%	54.5%	13.6%	40.9%	38.6%
Water Use	20.5%	9.1%	20.5%	11.4%	15.9%	15.9%
Hazardous Waste	77.3%	2.3%	65.9%	2.3%	15.9%	13.6%
Waste Management	18.2%	4.5%	25.0%	15.9%	22.7%	22.7%
Product Formulations	25.0%	13.6%	38.6%	29.5%	54.5%	54.5%
Employment	61.4%	18.2%	54.5%	20.5%	52.3%	52.3%
Human Rights	0.0%	0.0%	0.0%	0.0%	9.1%	4.5%
Ethics	29.5%	0.0%	25.0%	4.5%	40.9%	27.3%

Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.

Areas where this industry group posted the highest percentage among all industries are highlighted in red.

Source: Sustainable Investments Institute (Si2), Washington, DC

Hazardous waste: Disclosures on hazardous waste for the Industrial Machinery sector—peaking in risk disclosures in 10-K filings at a rate of 77.3 percent and declining in sustainability reporting to 15.9 percent for risks and 13.6 percent for opportunities, the highest rate for all three documents—mostly focused on the pedestrian discussions of regulatory risks, fines and cleanup costs. For example:

- **Flowserve** in its 10-K filing noted that it uses hazardous substances and generates hazardous wastes in many of its manufacturing and foundry operations. Most of its present and former properties "are or have been used for industrial purposes" and therefore "may require clean-up of historical contamination," although it says it has cleaned up the "majority" of these sites.

Flowserve says it attempts to mitigate these ongoing risks by conducting thorough environmental assessments as part of its due diligence of assessing acquisitions. In addition, the company has been involved as one of many potentially responsible parties ("PRP") at former public waste disposal sites that are or were subject to investigation and remediation, and it is currently responsible for the cleanup of seven Superfund sites. It says, "The projected cost of remediation at these sites, as well as our alleged 'fair share' allocation, while not anticipated to be material, has been reserved." However, it adds, "until all studies have been completed and the parties have either negotiated an amicable resolution or the matter has been judicially resolved, some degree of uncertainty remains."

- Similarly, **Goodyear** in its 10-K filing also highlights potential costs associated with compliance with laws and regulations on "air emissions, discharges to surface and underground waters and the generation, handling, storage, transportation and disposal of waste materials and hazardous substances."

  Goodyear also noted programs to manage these risks and its expenditures associated with them: $52 million during 2011 and approximately $55 million for 2012 and $56 million during 2013 "to maintain and operate our pollution control facilities and conduct our other environmental activities, including the control and disposal of hazardous substances." It told investors it expected these programs to "be sufficient to comply with existing environmental laws and regulations and are not expected to have a material adverse effect on our competitive position." But it did not rule out "increased costs and additional charges associated with environmental compliance and cleanup projects necessitated by the identification of new waste sites, the impact of new environmental laws and regulatory standards, or the availability of new technologies" that might add a material increase to these capital expenditures, affect earnings and its competitive position, or otherwise sour operational results.

- **General Electric** in its annual report disclosed that its expenditures for site remediation actions amounted to approximately $0.3 billion in 2011, $0.2 billion in 2010 and $0.3 billion in 2009. It expects those to rise to about $0.4 billion for each of the next two years. It continues to discuss a consent decree it entered into with the EPA in 2006 to dredge PCB-containing sediment from the upper Hudson River—a long running dispute and environmental liability for the company that featured in a shareholder resolution filed in 2013 by the New York State Common Retirement Fund. The dredging was to take place in two phases, and the first was completed in November 2009. Following an evaluation of the first phase, the EPA in December 2010 issued its decision setting forth the final performance parameters for the second phase. GE is now in the midst of completing its requirements under phase two, which will stretch into 2013.

Environmental management: The second most discussed topic for Industrial Machinery firms, with about 66 percent saying something on the topic overall, many of the environmental management disclosures for the sector also focused on hazardous waste with the overlay of information on the use of environmental management systems to mitigate risks. For example:

- **Cummins** in its sustainability report discusses the importance of its health, safety and environmental management system in delivering operational results. It notes that the "integrated, enterprise system provides a common approach to HSE management across the globe, and capitalizes on the many similarities between safety and environmental management systems." By the end of 2011, Cummins said its independent auditor had certified 76 sites, representing 84 percent of its manufacturing capacity, and the corporate entity as part of the enterprise-wide system and conforming with ISO 14001, the international environmental management standard

Cummins chose for the system. It expected to achieve 100 percent by the end of 2012. Cummins says its investments in environmental improvements were generating a net $14.5 million in improvements to operating results and would continue to focus on key resource areas, "including greenhouse gases, water and waste."

- Likewise, **Xylem** said in its sustainability report that all of its facilities with significant office space have implemented its environment, safety and health management system. It says the tool helps its facilities "to assess their strengths and weaknesses, manage resources, increase efficiencies and stay in compliance with environment, safety and health legislation and internal benchmarks." The system was developed in accordance with the ISO 14001 and OHSAS 18001 standards, and nearly 50 sites representing more than 25 percent of its production locations had obtained ISO 14001 certification by the end of 2011. Another 20 have OHSAS 18001 certification.

Employment: More than 60 percent of the sector discussed employment risks in 10-K filings and nearly 55 percent talked about opportunities in this area in sustainability reporting platforms. Many in the industry spoke to the business imperative of attracting and retaining qualified employees, especially considering the highly skilled workforces the industry requires. Most noted the contribution of diversity programs to these efforts. At the same time, many highlighted risks related to employee relations, union negotiations and associated strikes, as well as the importance of safety performance. For example:

- **BorgWarner** in its 10-K filing says, "Our ability to sustain and grow our business requires us to hire, retain and develop a highly skilled and diverse management team and workforce worldwide." Conversely, it adds, "Any unplanned turnover or inability to attract and retain key employees in numbers sufficient for our needs could adversely affect our business." Borgwarner also noted that 22 percent of its workforce is unionized, "which could subject us to work stoppages." It added, "A prolonged dispute with our employees could have an adverse effect on our business.
- **Raytheon** also said in its 10-K that it depends "on the recruitment and retention of qualified personnel, and our failure to attract and retain such personnel could seriously harm our business." It explained, "Due to the specialized nature of our business, our future performance is highly dependent upon the continued services of our key engineering personnel and executive officers, the development of additional management personnel and the hiring of new qualified engineering, manufacturing, marketing, sales and management personnel for our operations." It said, "Competition for personnel is intense, and we may not be successful in attracting or retaining qualified personnel." Like Borgwarner, it too noted that "some of our workforce is represented by labor unions [8 percent] so our business could be harmed in the event of a prolonged work stoppage." It said it could not "predict how stable our union relationships will be or whether we will be able to successfully negotiate successor agreements without impacting our financial condition."
- **Ingersoll-Rand** chose to highlight the importance of diversity in its annual report. Its CEO included a statement, noting that "Ingersoll Rand is building a progressive, diverse and inclusive culture by promoting an environment where creativity is nurtured and individual talents are respected. As our organization grows to better reflect the diverse nature of the markets we serve, our diversity focus enhances our ability to develop products and services that meet new and growing customer needs around the world. In addition to spurring innovation, our culture helps us maintain a competitive edge in attracting and retaining top talent." It also spoke about the need to strive for "the highest degree of safety" and reviewed its zero-incident goals and reduc-

tions in recordable and lost-time incident rates in recent years, as well as its employee surveys and other mechanisms to engage its workforce.

- **Lockheed Martin** also highlighted diversity in its sustainability report, noting that "diversity and inclusion are business imperatives" for the company. It said its diversity programs were "about creating an environment that welcomes, respects and leverages our individual differences as a competitive strength." It also reviewed the launch of an employee survey in 2011 to assess employee viewpoints on job satisfaction, diversity, ethics and organizational leadership.

Climate change: Half of the sector talked about climate risks in 10-K filings, although this percentage went up to nearly 57 percent for annual reports and nearly 55 percent for sustainability reports. As with other environmental issues, regulation was a concern for the sector, but many were extremely bullish on product developments designed to mitigate greenhouse gas emissions for customers. For example:

- **John Deere** noted in its 10-K filing that it "may incur increased costs due to new or more stringent greenhouse gas emission standards designed to address climate change and could be further impacted by physical effects attributed to climate change on its facilities, suppliers and customers." It acknowledged "a growing political and scientific consensus that emissions of greenhouse gases continue to alter the composition of the global atmosphere in ways that are affecting and are expected to continue to affect the global climate," and said "these considerations may lead to international, national, regional or local legislative or regulatory responses in the near future."

  While it was working on ways to reduce GHG emissions, Deere said, "regulation of GHG emissions from certain stationary or mobile sources could result in additional costs to John Deere in the form of taxes or emission allowances, facilities improvements and energy costs (which would increase John Deere's operating costs through higher utility, transportation and materials costs)." At the same time, "The regulation of GHG emissions from non-road sources could require further changes to the design of John Deere's engines and equipment," and "increased input costs, such as fuel and fertilizer, and compliance-related costs could also impact customer operations and demand for John Deere equipment."

  However, "because the impact of any future GHG legislative, regulatory or product standard requirements on John Deere's global businesses and products is dependent on the timing and design of the mandates or standards," it said it was "unable to predict its significance at this time." It also noted that physical impacts for it, its suppliers and customers, including "changes in weather patterns (including drought and rainfall levels), water availability, storm patterns and intensities, and temperature levels" were "highly uncertain, and will be particular to the circumstances developing in various geographical regions."

- **Cummins** by contrast was more focused on business opportunities related to climate change in its 10-K filing. It noted for investors that it had "invested significantly to further lower emissions from and increase the efficiency of our products." It said it had worked "collaboratively with customers to improve their fuel economy and reduce their carbon footprint," and it had "significantly reduced greenhouse gas (GHG) emissions from our facilities and exceeded our 2010 goal of 25 percent intensity reduction by achieving a 28 percent reduction, resulting in a savings of approximately $20 million annually." It said it would "continue these efforts through our new facility goal to expand this reduction to 40 percent GHG intensity reduction by 2015."

- Meanwhile **Ingersoll-Rand** emphasized adapting to climate challenges in its annual report. It said that "with global energy consumption projected to grow 60 percent by 2030, we anticipate strained energy supplies, rising prices and an increase in greenhouse gas emissions." It added, "Scientists predict that, if realized, the risks associated with greenhouse gas emissions may cause changes to the physical environment and volatility in energy and agriculture prices. Beyond the environmental impact related to climate change, rising greenhouse gas emissions have the potential to negatively affect the health of the global economy."

Therefore, "As Ingersoll Rand's markets and customer base continue to grow in such a resource-constrained environment, both in terms of energy supply and basic raw materials, sustainable resource use through innovation has become a business imperative." It says it is focusing on energy efficiency improvements and reductions in the use of various materials in both its operations and product lines and highlights the environmental attributes of several of its product lines in its annual report. It also noted a 2011 survey, sponsored with the Economist Intelligence Unit, of CEOs and senior executives on the topic of energy efficiency and sustainability. The research found that 75 percent of respondents indicated energy efficiency will be an area of increasing strategic importance over the next five years. Ingersoll-Rand believes this bodes well for its suite of energy-efficiency solutions for customers.

- **Johnson Controls** was equally bullish on its product line in its annual report, and its ability to deliver on meeting customers' needs to reduce energy use and greenhouse gas emissions. For example, Johnson Controls Building Efficiency delivers "products, services and solutions that increase energy efficiency and lower operating costs in buildings for more than one million customers," including "equipment, controls and services for heating, ventilating, air-conditioning, refrigeration and security systems." The division also has helped companies implement more than 500 renewable energy projects including solar, wind and geothermal technologies, reducing the carbon dioxide emissions of its clients by 16 million metric tons and generating savings of $19 billion since 2000. At the same time, it says, the business unit achieved "a 16 percent increase in revenue and a 12 percent increase in segment income due to higher sales volumes across all business segments and strong emerging market growth," and it accounted for 37 percent of the company's net consolidated revenue in 2011.

  Moreover, Johnson Controls says, it is using its customer solutions to improve its own performance. Its energy audit program had identified 370 energy efficiency projects in its own operations that have contributed to savings of about $5 million per year to its operating costs.

Product formulations: While not a frequent topic for 10-K filings, with only a quarter having disclosures there, more than half of the sector described product innovations addressing sustainability challenges in their sustainability reports. In addition to the products addressing climate challenges, described above, as well as others addressing water, waste and other sustainability challenges reviewed throughout this section, companies also discussed product development in the context of risks connected to product safety and chemical formulations. For example:

- **Goodyear** in its 10-K filing noted that it was subject to regulation by the Department of Transportation through the National Highway Traffic Safety Administration (NHTSA), "which has established various standards and regulations applicable to tires sold in the United States and tires sold in a foreign country that are identical or substantially similar to tires sold in the United States." NHTSA also has "the authority to order the recall of automotive products, including tires, having safety-related defects."

  The Transportation Recall Enhancement, Accountability, and Documentation Act, or TREAD Act, Goodyear says, "imposes numerous requirements with respect to the early warning reporting of warranty claims, property damage claims, and bodily injury and fatality claims and also requires tire manufacturers, among other things, to conform with revised and more rigorous tire testing standards." Goodyear says, "Compliance with the TREAD Act regulations has increased the cost of producing and distributing tires in the United States," and it notes that recalls could have materially adverse impacts on its bottom line, as well as significant repercussions for its reputation, operating results and financial position.

Goodyear also reviewed similar laws in the European Union, as well as a new requirement on fuel efficiency disclosure for consumers in the United States—the Energy Independence and Security Act of 2007. It further noted, "Tires produced or sold in Europe also have to comply with various other standards, including environmental laws such as REACH (Registration, Evaluation, Authorization and Restriction of Chemical substances), which regulates the use of chemicals in the European Union." Goodyear says that since the beginning of 2010, REACH has "prohibited the use of highly aromatic oils in tires, which were used as compounding components to improve certain safety-related performance characteristics, such as grip." It said these and other developments were increasing its capital spending and might alter its research and development plans or cease the production of certain tires, which could have a material adverse effect on its operating results.

However, many others had ambitious plans and goals for sales for product lines addressing sustainability challenges. For example:

- **Masco** said in its sustainability report that it sells "a wide range of products and provides services that offer environmental benefits, such as helping conserve energy, water or other natural resources, from low-flow kitchen and bath fixtures to installing insulation." It has set a goal to generate $2 billion of annual revenue from a subset of these products and services—those meeting or exceeding third party environmental performance criteria. Examples included "faucets that meet or exceed the EPA's WaterSense requirements for water conservation, paints that meet external standards for low volatile organic compounds, and windows that meet the EPA's ENERGY STAR requirements." To date, its green products and services portfolio is generating $1.1 billion in annual sales and exceeding expectations.

Waste management: Waste was touched upon by about a quarter of the firms in the sector, and those that mentioned it usually discussed reducing waste in manufacturing operations. For example:

- **Cummins** in its sustainability report talked about having "successfully completed multiple projects related to manufacturing process redesign, improved waste segregation, increased employee engagement and supplier partnerships to reduce waste." It planned to "continue to make capital investments in equipment to facilitate waste reduction and increase our ability to recycle." The efforts to date, it says, "have helped Cummins reduce raw materials consumption, energy use, water use and operating costs." It highlighted a case from its Darlington Engine Plant in the United Kingdom, which hasn't sent any waste to a landfill for 16 months and had reduced associated annual operating costs by $159,000.

Water use: An issue addressed by about a fifth of the sector, many companies talked about risks related to the availability of water, but several talked about opportunities, too:

- Continuing on the product theme, **Xylem** warned investors in its 10-K filing, "Our planet faces a serious water challenge." It noted that "less than 1 percent of the total water available on earth is fresh water, which is declining due to factors such as the draining of aquifers, increased pollution and climate change." In addition, it said, "to this declining supply, demand is rising rapidly due to population growth, industrial expansion, and increased agricultural development, with consumption estimated to double every 20 years." It predicted that by 2025, more than "30 percent of the world's population is expected to live in areas without adequate water supply. Even in developed countries with sufficient supply, existing infrastructure for water supply is relatively underfunded and aging. In the United States, degrading pipe systems leak one out of every six gallons of water, on average, on its way from a treatment plant to the customer."

Despite the dire predictions, Xylem says "these challenges are driving opportunities for growth in the global water industry, which we estimate to have a total market size of $500 billion." It said its product line of water solutions, analytics and systems were uniquely poised to reap profits in this area.

- **Danaher** also extolled the virtues of its water quality business in its 10-K filing, and its ability to address sustainability challenges related to the availability of water.

Ethics: As noted earlier, more Industrial Machinery firms discussed risks related to ethical concerns in sustainability reports than any other sector, to the tune of nearly 41 percent, and risk disclosures in 10-K filings (29.5 percent) and annual reports (25 percent) also were above average. For example:

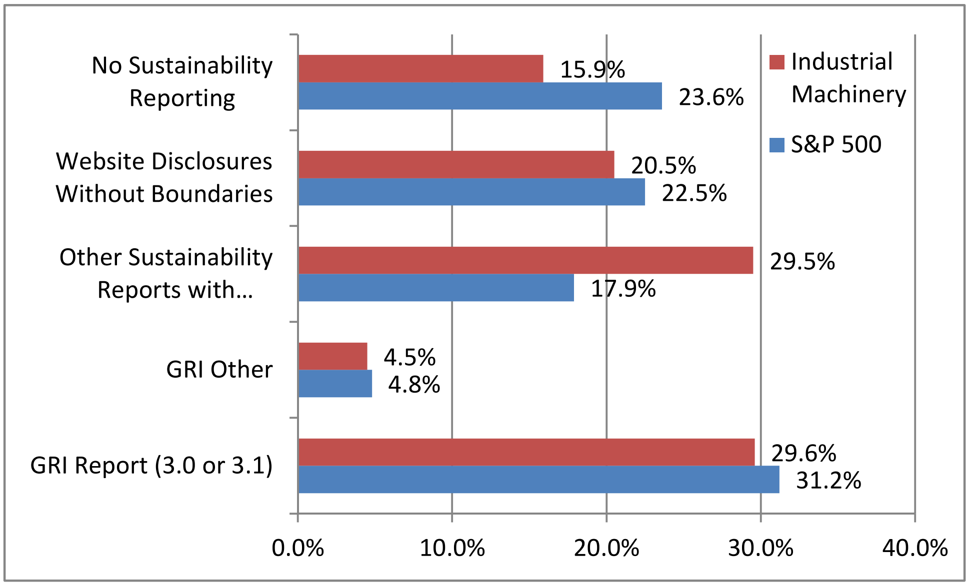
- **Ingersoll Rand** said in its 10-K filing that its "reputation, ability to do business and results of operations could be impaired by improper conduct by any of our employees, agents or business partners." It explained, "We are subject to regulation under a wide variety of U.S. federal and state and non-U.S. laws, regulations and policies, including laws related to anti-corruption, export and import compliance, anti-trust and money laundering, due to our global operations." It further warned, "We cannot provide assurance our internal controls will always protect us from the improper conduct of our employees, agents and business partners." Further, "Any improper conduct could damage our reputation and subject us to, among other things, civil and criminal penalties, material fines, equitable remedies (including profit disgorgement and injunctions on future conduct), securities litigation and a general loss of investor confidence, any one of which could have a material adverse impact on our business prospects, financial condition, results of operations, cash flows, and the market value of our stock."

Conflict minerals: A handful of Industrial Machinery firms had potential exposure to conflict minerals in the DRC. While the SEC reporting requirements were still pending during the study period, several warned of costs associated with them. For example:

- **Textron** said in its 10-K filing, "Pursuant to the requirements of the Dodd-Frank Act, we will be required to report on our use of 'conflict minerals' originating from the Democratic Republic of Congo and surrounding countries. Compliance with the proposed rules to implement this provision of the Dodd-Frank Act is expected to be time-consuming and costly. In addition, these new requirements could affect the cost and availability of minerals used to manufacture certain of our products."

Mine safety: Addressing another Dodd-Frank requirement, **3M** was one of the firms falling under the SEC's disclosure mandate on mine safety; it added an exhibit associated with its records on the subject. It reported 17 mine safety citations, $42,558 in potential fines, and three pending legal actions—four initiated during the year and one resolved.

Sustainability reporting: The Industrial Machinery sector slightly lagged the S&P 500 overall on rates of sustainability reports referencing GRI (34.1 percent versus 36 percent) but bested the overall index in levels of sustainability reporting (84.1 percent versus 76.3 percent).



Financials in sustainability reports: Of those with sustainability reporting, 27 percent also included consolidated or full financials, while another 40.5 percent had at least general economic reviews. Overall, the sector beat the S&P 500 average in this area for including financials (67.5 versus 61.6 percent).

Board diversity: Industrial Machinery firms were the fifth most likely out of 20 sectors to factor racial and/or gender diversity into considerations for director nominees, with 47.7 percent doing so versus the S&P 500 average of 37.2 percent.

Sustainability pay links: The Industrial Machinery sector also was more likely to have environmental criteria linked to sustainability pay than the S&P 500 as a whole (15.9 percent versus 13.3 percent), as well as ethics-related metrics (13.6 percent versus 10.7 percent). However, the sector was less likely to have social criteria (18.2 percent versus 27.2 percent) for executive pay links.

Points: As noted earlier, the Industrial Machinery sector came in sixth out of the 20 sectors in average scores—19.5 points—and beat the S&P 500 average of 17.5 points. **Eaton** with 44 points was the top earner; it is profiled below.

Sector Profile: Eaton

Eaton is a diversified power management company providing solutions that help customers manage electrical, hydraulic and mechanical power, including power quality, distribution and control, power transmission, lighting and wiring products; hydraulics components, systems and services for industrial and mobile equipment; aerospace fuel, hydraulic and pneumatic systems for commercial and military use; and truck and automotive drivetrain and powertrain systems for performance, fuel economy and safety. As would be expected, energy efficiency and other targeted product solutions to climate change dominated its sustainability disclosures. Eaton also stood out as being one of only seven companies in the S&P 500 with a fully integrated annual financial and sustainability report, for which it used GRI's 3.0 guidelines and self-declared a C+ reporting level. It also had a board diversity statement and executive pay links to sustainability criteria.

Climate change: Eaton says that its products and services aimed at helping customers to manage power more efficiently, reliably, safely and sustainably are central to both its sustainability strategy in addressing climate change and to its business plan. Eaton summarizes its offerings of energy-saving solutions in its annual report. It notes that data centers consume 2 percent of all electricity in the United States and 1.3 percent of all electricity worldwide. Rising costs and mounting concerns about greenhouse gas emissions, it says, are prompting "many organizations to seek more cost-effective solutions while maintaining IT system reliability and uptime." Eaton provides comprehensive grid-to-server "green computing" solutions, including "uninterruptible power systems (UPSs), surge-protection devices, low- and medium-voltage switchgear, power distribution units, racks and thermal management systems," as well as "power management software to optimize data center efficiency, and comprehensive design, installation and maintenance services." It says its average green computing client realizes 10 percent in energy savings compared to older technologies.

Eaton also has a suite of products and services "to help customers design energy-efficient buildings and modernize existing buildings to increase reliability, reduce energy costs and meet sustainability goals." It highlights that its lighting control systems can reduce energy consumption in buildings by 20 to 25 percent; its adjustable-frequency products lower the cost of powering heating, ventilation and air conditioning (HVAC) systems by 10 to 50 percent; and its global energy solutions team is one of the largest and most experienced providers of engineering services in the industry, providing comprehensive energy assessment, design, installation and support services. During 2011, it notes that the U.S. Department of Energy qualified Eaton as an energy service company (ESCO), recognizing Eaton's ability to manage effectively energy-efficiency projects and helping the company "win several significant contracts during the year.…" Eaton applies these solutions to its own operations with successful results.

Eaton also highlights solutions from its aerospace business, which has grown more than tenfold over the last 15 years to $1.65 billion in 2011—given its track record for helping the industry "reduce the weight of aircraft, improve fuel economy, enhance reliability and make flying safer." These include electronic, hydraulic, fuel and electrical systems for China's COMAC and Russia's Irkut aircraft, as well as Boeing's. In addition, Eaton's hybrid power enables buses, delivery trucks, utility trucks and many other commercial vehicles to operate more cleanly and efficiently. Its hybrid electric and hybrid hydraulic systems are on the road today in more than 5,500 vehicles, "accumulating an estimated 200 million miles of service, reducing diesel fuel consumption by 8 million gallons and eliminating 80,000 metric tons of harmful emissions from the environment." Also among its suite of climate-related products are its charging stations for vehicles, as well as its power and balance-of-system products needed to convert and distribute power from renewable resources such as solar and wind to the electrical grid.

Eaton estimates that the new technologies it has under development "have the potential to reduce the CO2 emissions of its applications by up to 60 percent by 2050" and "to make renewable energy more efficient and affordable, accelerating the deployment of wind and solar power worldwide." Eaton disclosed its GHG emissions in its annual report, pointing to an overall efficiency reduction of 23 percent between 2006 and 2012.

Environmental management: Eaton notes in its 10-K and annual report that its manufacturing facilities are required to be certified to ISO 14001. It also notes that its environmental management protocol is part of an overall Management System of Environment, Security, Safety and Health (MESH) it created in 2005 to help standardize practices across all of these issues and operations. The system also helps Eaton measure its progress toward meeting its sustainability goals for greenhouse gas emissions, waste, water and employee health and safety.

Hazardous materials: Eaton reported in its 10-K that 79 of its facilities were involved in environmental remediation and several were named a potentially responsible party under the federal Superfund law, although it said “none of these sites [was] individually significant to the company.” It had budgeted $62 million for these activities in 2010 and $71 million for 2011.

Employment: Eaton says in its 10-K filing that its “ability to attract, develop and retain executives and other qualified employees is crucial to the Company’s results of operations and future growth.” It adds, “An inability to hire, develop and retain a sufficient number of qualified employees could materially hinder the business by, for example, delaying Eaton’s ability to bring new products to market or impairing the success of the Company’s operations.” It also notes the potential for strikes to disrupt its operations and negatively impact results.

In its annual report, Eaton focused on safety, noting that it improved its Total Recordable Case Rate by nearly 8 percent to 0.88 (compared to a 0.90 goal) over the past year, as well as its Days Away Case Rate (DACR) by approximately 21 percent to 0.35 (compared to a 0.30 goal). However, it also reported a fatal injury. It says it continues to focus on establishing better metrics and higher goals in this area to improve its overall operational performance.

Diversity also was a key area of disclosure in its annual report. Eaton said that its “success depends on our ability to draw the very best people from the global, cross-cultural talent pool reflecting the diversity of our customers, communities and markets.” It added that it strives to create “an inclusive environment that respects individual differences and values the unique perspectives that lead to innovative ideas and continued growth.”

It also reported out the results from its annual global employee survey, which provides management “with a structured way to evaluate employee engagement and to solicit ideas for how we can keep improving our workplaces.” In 2011, 97 percent of its employees participated in the survey worldwide, up from 96 percent the year before. It noted several favorable results from the survey, including the percentage of employees who “fell proud to work for Eaton,” which rose to 75 percent, up from 69 percent the previous year and 56 percent in 2002. In addition, positive ratings for managerial effectiveness rose to 72 percent in 2011, up from 66 percent the year before.

Waste management: Eaton reduced its waste generation by 3.6 percent compared to a 3 percent goal during 2011 on a sales intensity basis. It is seeking ways to further reduce the creation of non-hazardous waste in its operations and associated disposal costs.

Water use: Eaton used the World Business Council for Sustainable Development’s global water tool in 2011 to assess water scarcity risks throughout its operations and is using the results to develop priorities for investments in reducing water risks going forward. On a sales intensity basis, it reduced its water consumption by 9.9 percent compared to a 3 percent goal in 2011.

Product formulations: Beyond the product innovations described earlier, in its annual report Eaton also reviews its Integrated Design for Environment initiative, which “evaluates every stage of a product’s life from whiteboard to recycling bin.” The system closely scrutinizes four characteristics—energy efficiency, resource efficiency, recyclability, and compliance to regulations—at each product life stage, guiding design team decisions.

Ethics: Eaton was subject of a lawsuit filed by ZF Meritor LLC and Meritor Transmission Corporation in 2006 in the United States District Court for Delaware, alleging that Eaton "engaged in anti-competitive conduct against Meritor in the sale of heavy-duty truck transmissions in North America." Eaton says in its 10-K filing, "The action sought damages, which would be trebled under United States antitrust laws, as well as injunctive relief and costs." After several motions filed by both parties, the court entered final judgment in August 2011, ruling against Eaton but awarding zero damages to the plaintiffs. The court "also entered an injunction prohibiting Eaton from offering rebates or other incentives based on purchasing targets but stayed the injunction pending appeal." Meritor has appealed. In its annual report, Eaton also discusses the importance of its ethics program to fostering an open workplace and maintaining its reputation.

Board diversity: According to its proxy statement, Eaton's Governance Committee "looks for individuals with specific qualifications so that the board as a whole has diversity in experience, international perspective, background, expertise, skills, age, gender and ethnicity."

Pay links: Eaton's governance committee tied annual profit plan incentives for executives to several sustainability criteria, including workplace safety and emissions reduction; promoting a learning culture; promoting our wellness initiative; participation in our annual employee survey; and reinforcing our ethical standards.

- ## Commercial Services

Among the smallest industries studied, with only nine companies, Commercial Services firms included an array of firms that provide services to businesses, including waste management, commercial printing, data, front-of-office, employment and environmental services. None of the nine companies in the sector were integrated reporters, but the sector as a whole edged out the S&P 500 in overall reporting as measured by Si2's assessment system, with a 19.3 point average, compared to 17.5 points for the S&P 500. The sector also was the fourth most likely to engage in some form of sustainability reporting, with 88.9 percent doing so compared to an S&P 500 average of 76.4 percent. By topic, the industry was most inclined to engage in disclosures on waste management, partially owed to its top scoring firm in the group which takes its name from this issue area, **Waste Management**, as well as hazardous waste, environmental management, climate change and water use. Due to a few outliers in the sector, it turned up as one of the most frequent in disclosing mine safety risks among all of the industries, and it also hit high water marks in disclosure of opportunities related to robust ethical programs in comparison to other sectors. *(See table below.)*

Meanwhile, disclosures of environmental liabilities (33.3 percent) fell slightly behind the S&P 500 average (38 percent), while other sustainability-related liabilities (44.4 percent) came in slightly ahead of the S&P 500 (41.9 percent).

Commercial Services	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	11.1%	11.1%				
Conflict Minerals	0.0%	0.0%				
Government Payments	0.0%	0.0%				
Climate Change	33.3%	0.0%	22.2%	0.0%	55.6%	55.6%
Environmental Management	44.4%	11.1%	22.2%	11.1%	66.7%	66.7%
Water Use	33.0%	0.0%	33.3%	0.0%	22.2%	22.2%
Hazardous Waste	55.6%	11.1%	44.4%	11.1%	22.2%	22.2%
Waste Management	55.6%	22.2%	55.6%	22.2%	55.6%	55.6%
Product Formulations	11.1%	11.1%	11.1%	11.1%	55.6%	55.6%
Employment	22.2%	0.0%	22.2%	0.0%	55.6%	55.6%
Human Rights	0.0%	0.0%	0.0%	0.0%	11.1%	0.0%
Ethics	11.1%	11.1%	11.1%	11.1%	22.2%	11.1%

Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.

Areas where this industry group posted the highest percentage among all industries are highlighted in red.

Source: Sustainable Investments Institute (Si2), Washington, DC

Waste management: More than half of the industry had something to say on waste management and recycling efforts and most focused on product recovery and recycling services for customers and business opportunities in this market.

- For example, **Pitney Bowes**'s sustainability report reviews the company's product remanufacturing and recycling programs, which it said have spanned more than five decades and millions of pounds of recovered equipment and components for reuse and recycling. Pitney Bowes said 95 percent of its mailing equipment parts are recyclable, and it had established centers throughout the United States and Canada where customers can return products for subsequent remanufacture, harvesting of parts or recycling. In 2011, the company's remanufactured equipment program diverted 371,127 pounds of waste from recycling to reuse, while becoming "more aggressive in marketing remanufactured products." It noted that it had rebranded its remanufactured equipment as Factory Certified Green Solutions in 2010, and in 2011 sales of these products were up 64 percent, buoying the company's overall sales and profits.

Hazardous waste: More than half of the Commercial Services sector also had something to say about hazardous waste.

- **Stericycle**'s 10-K filing was typical for the industry in its focus on regulatory risks. It said the environmental laws and regulations affecting its business mostly dealt with the "handling, transporting, and disposing of hazardous and non-hazardous waste, the release or threatened release of hazardous substances into the environment, the discharge of pollutants into streams, rivers, groundwater and other surface waters, and the emission of pollutants into the air." It pointed to the Resource Conservation and Recovery Act of 1976 (RCRA), the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), and the Clean Air Act of 1970 as the most substantive. Although medical waste—one of its mainstays—is currently considered non-hazardous solid waste under RCRA, some substances Stericycle collects from customers are, "including photographic fixer developer solutions, lead foils and dental amalgam…"

  In addition, the six incinerators Stericycle operates in the United States are subject to rules under the Clean Air Act. It also reviewed similar laws governing its operations in the European Union, Brazil and Canada.

  "As a company engaged in regulated waste management, we face risks of liability for environmental contamination," Stericycle disclosed to investors, which mostly fell under CERCLA in the United States. It explained, "Our pollution liability insurance excludes liabilities under CERCLA. Thus, if we were to incur liability under CERCLA and if we could not identify other parties responsible under the law whom we are able to compel to contribute to our expenses, the cost to us could be substantial and could impair our profitability and reduce our liquidity."

Environmental management: Many of the firms in the sector only offered limited disclosures about capital expenditures on environmental compliance, although many also disclosed the use of environmental management systems in sustainability reports—more than 60 percent overall.

- **Cintas**'s comments in its 10-K filings were standard for the industry. It noted, "While environmental compliance is not a material component of its costs, Cintas must incur capital expenditures and associated operating costs, primarily for water treatment and waste removal, on a regular basis." It recorded environmental spending related to water treatment and waste removal of about $20 million in fiscal 2012 and $18 million in fiscal 2011, while capital expenditures to limit or monitor hazardous substances were approximately $0.2 million in fiscal 2012 and approximately $2 million in fiscal 2011. Cintas added that it "does not expect a material change in the cost of environmental compliance and is not aware of any material non-compliance with environmental laws."

Climate change: More than half of the industry also had disclosures on climate change—about a third in 10-K filings, a fifth in annual reports and close to 67 percent in sustainability reports. Most focused on risk factors. For example:

- **Republic Services** in its 10-K noted that increased severity of weather and climate extremes resulting in the future from climate change could "increase the volume of waste collected under our existing contracts (without corresponding compensation), interfere with collection and landfill operations, delay the development of landfill capacity or reduce the volume of waste generated by our customers." On regulation of greenhouse gas emissions, Republic said such rules "could impose costs on our operations, the magnitude of which we cannot yet estimate." It noted that its "landfill operations emit methane, identified as a greenhouse gas, and our vehicle fleets emit, among others, carbon dioxide, which also has been identified as a greenhouse gas."

While comprehensive, federal climate change legislation is unlikely in the near future, Republic acknowledges the EPA's moves to regulate greenhouse gas emissions absent federal legislation have implications for its business. It highlights the EPA's May 2010 release of its Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule (Tailoring Rule). The rule is being challenged in court and the EPA had deferred its application to landfills for three years, but Republic tells investors that it "cannot assure you that eventual application of the Tailoring Rule to our landfills will not have a material effect on our landfill operations or on our consolidated financial condition, results of operations, or cash flows."

The company also highlights regulations under The Clean Air Act and similar state and local regulations imposing limitations on greenhouse gas emissions from various sources, including landfills and requiring large municipal solid waste landfills to install landfill gas monitoring systems. "Efforts to curtail the emission of greenhouse gases and to ameliorate the effect of climate change may require our landfills to deploy more stringent emission controls and monitoring systems," Republic said, "with resulting capital or operating costs."

Water use: About a third of the sector discussed water use and many were evaluating water shortages in areas of operation with business implications. For example:

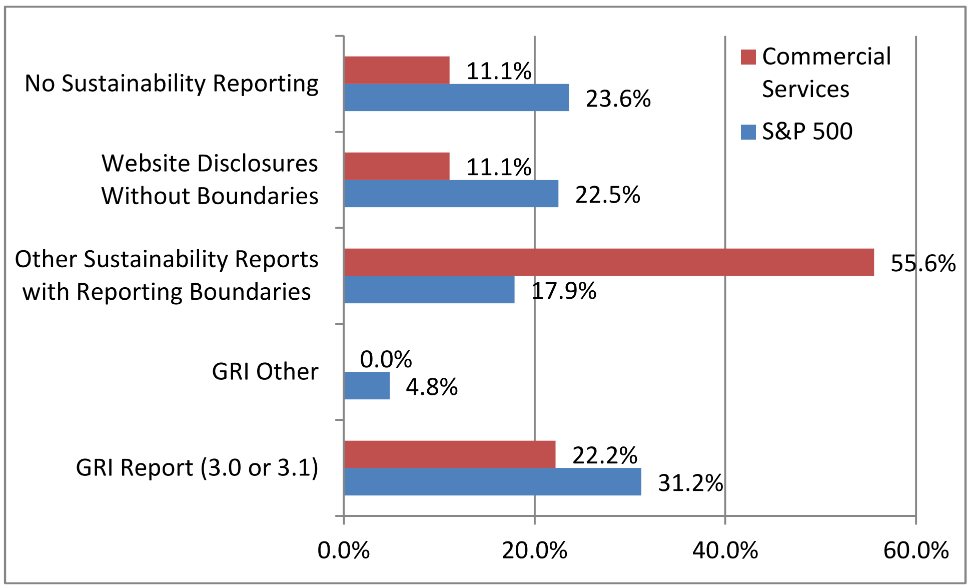
- **Avery Dennison** in its sustainability report reviewed its effort beginning in 2010 to measure its global water footprint—estimated at 1.83 million cubic meters. It says it uses water "primarily in certain manufacturing processes, such as process cooling, steam boilers, fabric label weaving and yarn dyeing." Based on its assessment, its monitoring its water consumption and developing a strategy in 2012 "to avoid contributing to water scarcity and to promote water conservation."

Employment: A topic discussed by a fifth of the industry in 10-K filings and annual reports and slightly more than half in sustainability reports, employment disclosures in the industry focused on diversity and various measures to evaluate management's ability to recruit and retain and employees. For example:

- **Robert Half International** said in its sustainability report that diversity—encompassing "characteristics such as race, sex and age, as well as religious affiliation, sexual orientation, color, disability, national origin, citizenship/immigration status, veteran status or any other protected status"—was a "core value" and believed "individual differences are what make us unique, enable us to offer the highest level of service to our customers, and provide us with a competitive edge in a global market."
- Meanwhile, **Avery Dennison** said in its sustainability report that it "measures employee turnover annually, conducts selected exit interviews and uses the data to strengthen its overall employee recruitment, development and retention efforts." This is a key business metric for management. It reported global employee turnover of 19 percent in 2010, about the same as the previous year's rate. "Of this rate, two-thirds left the company voluntarily and more than half of those who left held manufacturing jobs," it noted.

Other areas: R.R. Donnelley & Sons discussed the importance of ethics compliance to its overall reputation and prospects for business in its 10-K and annual report, accounting for the 11.1 percent ethics disclosure rate for the sector. **Waste Management** was the lone operator of a mine, explaining the mine safety disclosures included for the sector. Meanwhile, **Avery Dennison** discussed supply chain risks related to its exposure to child labor, forced labor and other human rights issues.

Sustainability reporting: Overall, Commercial Services firms were the fourth most likely sector to engage in sustainability reporting at a rate of 88.9 percent, considerably higher than the 76.4 percent S&P 500 average. However, the sector fell short of the S&P 500 average for using GRI 3.0 or 3.1 (22.2 percent versus 31.2 percent for the entire index) or otherwise referencing GRI (none in the sector versus 4.8 percent of the S&P 500). *(See bar chart below.)*



Financial reporting in sustainability reports: Of those issuing sustainability reports in some form, a quarter included consolidated or full financials, while another quarter offered some general economic highlights. Half had some financial information, but the industry overall trailed the S&P 500, which averaged 61.6 percent.

Board diversity: All told, 44.4 percent of the sector said that race and/or gender was a factor in director nominations, greater than the S&P 500 average of 37.2 percent.

Pay links: The sector did not report any links between executive pay and sustainability benchmarks.

Points: As noted earlier, Commercial Services firms bested the S&P 500 in overall reporting as measured by Si2's scoring system, with a 19.3 point average, compared to 17.5 for the S&P 500. **Waste Management** earned the industry's top score with 57 points (and the second highest score overall) and is profiled below.

Sector Profile: Waste Management

Waste Management is the largest solid waste management company in the United States. The fact that its business focuses on a critical sustainability challenge helped push Waste Management to the top of its industry in integrated reporting, but so did management's discussion of business challenges and opportunities and long-term decision horizon in relation to sustainability issues. This is best exemplified by the president and CEO's opening to the company's sustainability report:

> Sustainability is a central motivation for our transformation from a waste collection and disposal company to one that views and uses waste as a resource. At Waste Management, environmental stewardship is linked inextricably to our business performance. As recycling volumes rise and the demand for recycled commodities grows, our revenues from this part of the business rise. As the demand for renewable energy increases, driven by governmental and customer sustainability goals, so do Waste Management revenues from green energy. And, of course, as demand falls or the value of recycled goods or renewable energy declines, our revenues from these activities fall as well. We take a long-term outlook, however. Despite periodic dips in recycling and green energy prices, we continue to develop new ways to convert waste into valuable resources.

Environmental management: Waste Management says in its 10-K filing that "a significant portion of our operating costs and capital expenditures could be characterized as costs of environmental protection as we are subject to an array of laws and regulations relating to the protection of the environment." In addition to a wide range of state and local laws, Waste Management highlights on the federal level: The Resource Conservation and Recovery Act of 1976; The Comprehensive Environmental Response, Compensation and Liability Act of 1980, also known as Superfund; the Clean Water Act; and the Clean Air Act of 1970.

It says its environmental remediation activities focus on hazardous waste and landfill management, including superfund sites. As of the end of 2011, Waste Management had 80 locations listed on the EPA's Superfund National Priorities List, of which most were former sites and 17 were sites the company continues to own and operate. Litigation—both government and civil suits—is tied to remediation for many of the sites.

It observed, "In recent years, we have perceived an increase in both the amount of government regulation and the number of enforcement actions being brought by regulatory entities against operations in the waste services industry. We expect this heightened governmental focus on regulation and enforcement to continue." While these pose risks for the company and its investors, including "significant capital and operating expenditures," Waste Management says that "most of these expenditures are made in the normal course of business and do not place us at any competitive disadvantage." It posted $1.565 billion in landfill management and other environmental remediation contingencies for 2011, up slightly from $1.560 billion in 2010. Waste Management highlights in its sustainability report its environmental management systems, including the monitoring of air and water emissions, and its efforts to improve its environmental performance and operating costs though effective environmental management. (Some of these are summarized below.)

Hazardous waste: Waste management notes in its 10-K that "to develop, expand or operate a landfill or other waste management facility, we must have various facility permits and other governmental approvals, including those relating to zoning, environmental protection and land use." It acknowledges, "The permits and approvals are often difficult, time consuming and costly to obtain and could contain conditions that limit our operations. We also have significant financial obligations relating to final capping, closure, post-closure and environmental remediation at our existing landfills. We establish accruals for these estimated costs, but we could underestimate such accruals."

In addition, Waste Management notes, "landfill and waste-to-energy operations are affected by the increasing preference for alternatives to landfill and waste-to-energy disposal." It explains, "Several state and local governments mandate recycling and waste reduction at the source and prohibit the disposal of certain types of waste, such as yard and food waste, at landfills or waste-to-energy facilities. Legislative and regulatory measures to mandate or encourage waste reduction at the source and waste recycling also have been or are under consideration by the U.S. Congress and the EPA."

At the same time, it highlights in its 10-K and sustainability report how its recycling business is benefiting from these trends. It also notes in its sustainability report that waste-to-energy plants continually rank among the lowest in terms of environmental impacts, including total hazardous air pollutant emissions, dioxin and mercury emissions. It reviews how its plants have been curbing these emissions in recent years.

Waste management: The company's clearest sustainability and business challenge is customer preferences to limit waste streams. Waste Management notes in its 10-K filing that "increasing customer preference for alternatives to landfill disposal and waste-to-energy facilities could reduce our ability to operate at full capacity and cause our revenues and operating results to decline." It points out:

- Many of its customers "are increasingly diverting waste to alternatives to landfill and waste-to-energy disposal, such as recycling and composting, while also working to reduce the amount of waste they generate."
- At the same time, "several state and local governments mandate recycling and waste reduction at the source and prohibit the disposal of certain types of waste, such as yard and food waste, at landfills or waste-to-energy facilities."
- Even "where such organic waste is not banned from the landfill or waste-to-energy facility," it says, "large customers such as grocery stores and restaurants are choosing to divert their organic waste from landfills."
- Finally, many major corporations have announced zero-waste goals—sending no waste to the landfill.

"Although such mandates and initiatives help to protect our environment, these developments reduce the volume of waste going to landfills and waste-to-energy facilities in certain areas, which may affect our ability to operate our landfills and waste-to-energy facilities at full capacity, as well as affecting the prices that we can charge for landfill disposal and waste-to-energy services," the company says. Furthermore, "our landfills and our waste-to-energy facilities currently provide and have historically provided our highest operating margins." Therefore, Waste Management says, "If we are not successful in expanding our service offerings and growing lines of businesses to service waste streams that do not go to landfills or waste-to-energy facilities and to provide services for customers that wish to reduce waste entirely, then our revenues and operating results will decline."

Part of its strategy is increasing recycling services and a big part of this effort has been the development, implementation and expansion of single-stream or "one bin" recycling (whereby Waste Management does all of the sorting). This has facilitated recycling among residential and commercial customers. Waste Management is North America's largest recycler of post-consumer waste, and it extracted almost 12.9 million tons of recyclables from the waste stream in 2011—61 percent more than its baseline in 2007.

Its goal is to manage more than 20 million tons a year of recyclable materials by 2020 by employing advanced technologies, expanding single-stream recycling capacity, building infrastructure to collect and process organic materials, and investing in new ways to unlock more value from organic waste. "Though commodity prices were volatile," it notes in its 10-K filing, it "continued to invest in recycling facilities and companies, including opening or requiring a net of 14 new materials processing plants in 2011, three single-stream recycling plants among them, and investing heavily in organics collection and processing, which reached 2.5 million tons in 2011 compared to no organic material reported in 2007. Waste Management also has expanded into a variety of sustainability services to businesses and organizations, including in-plant services where its employees work full-time inside customers' facilities to provide full-service waste management solutions and consulting services to help customers meet sustainability goals.

Waste Management also notes in its 10-K filing that "the United States Congress has considered legislation authorizing states to adopt regulations, restrictions, or taxes on the importation of out-of-state or out-of-jurisdiction waste," which could "adversely affect" its operations.

Climate change: Waste Management noted in its 10-K filing that the EPA issued the Prevention of Significant Deterioration (PSD) and Title V Greenhouse Gas, or GHG, Tailoring Rule in 2010, which expanded the EPA's federal air permitting authority to include greenhouse gases, including methane. Waste Management said "air permits for new and modified large municipal solid waste landfills, waste-to-energy facilities and landfill gas-to-energy facilities could be impacted, but the degree of impact is incumbent upon the EPA's final determination on permitting of biogenic GHG emissions (e.g. carbon dioxide) as well as the EPA's or implementing state's determinations on what may constitute Best Available Control Technology for new projects exceeding certain thresholds." Implementation of these regulations has been delayed for three years.

"In addition, recent final and proposed reductions in certain National Ambient Air Quality Standards and related PSD increment/significance thresholds could impact the cost, timeliness and availability of air permits for new and modified large municipal solid waste landfills, waste-to-energy facilities and landfill gas-to-energy facilities," the company notes. It added, "Efforts to curtail the emission of greenhouse gases and to ameliorate the effect of climate change may require our landfills to deploy more stringent emission controls, with resulting capital or operating costs," and it says broader adoption of climate change legislation or regulations "could increase our costs to operate."

It also continues to expand in landfill gas. "The methane component of the landfill gas is a readily available, renewable energy source that can be gathered and used beneficially as an alternative to fossil fuel," and Waste Management noted in its 10-K that the "EPA endorses landfill gas as a renewable energy resource, in the same category as wind, solar and geothermal resources." At the end of 2011, 131 of its solid waste landfills were producing commercial quantities of methane gas.

Waste management also sees opportunities in conserving energy. In 2011, it said in its sustainability report, its energy use costs equaled about 28 percent of its revenues, and lighting accounted for 21 percent its electricity consumption. In response, it launched a 24-month lighting efficiency partnership with Sylvania Lighting Services to perform retrofits to reduce its annual electrical consumption of 82.7 million kilowatts per hour (kWh) by as much as 30 million kWh, and cut its lighting costs by 40 percent. It also is working to improve the fuel efficiency of its trucks and reduce its total fleet emissions by 15 percent by 2020, by investing up to $500 million a year over a 10-year period begun in 2007 to save 350 million gallons of fuel—about 3.5 million metric tons of CO_2 emissions—and $1 billion in operational costs. It is participating in the EPA's SmartWay Transport Partnership to aid its fleet efforts.

Water: In its sustainability report, Waste Management said it recognizes that "freshwater supplies are under increasing stress" and "the importance of using water sparingly and protecting its quality." Beyond storm water management, it conserves and reuses reclaimed wastewater in boilers for steam turbines at some renewable plants, and all of its waste-to-energy facilities collect contact water and process water for reuse in other operations. In addition, where permissible, it uses wastewater in constructing landfill units. Its facilities have "started to adopt high-efficiency plumbing fixtures during building retrofits and fixture change-outs" and to review "water requirements in landscape irrigations." All of these efforts, it says, are reducing operating costs while improving water stewardship.

Employment: Another significant area of regulation Waste Management discusses in its 10-K filing is standards promulgated by the Occupational Safety and Health Administration, as well as various reporting, record keeping obligations and procedural requirements. It highlights that "various standards for notices of hazards, safety in excavation and demolition work and the handling of asbestos, may apply to our operations." In its 10-K, Waste Management notes that its "operating expenses could increase as a result of labor unions organizing or changes in regulations related to labor unions," and it "could face significant liabilities for withdrawal from multi-employer pension plans."

Ethics: In its 10-K filing, Waste Management underscored that it has "developed a reputation for high-quality service, reliability and social and environmental responsibility ….Adverse publicity, whether or not justified, relating to activities by our operations, employees or agents could tarnish our reputation and reduce the value of our brand," thereby reducing demand for its services, requiring additional resources to restore its reputation and brand value, and damaging its financial condition, liquidity and results of operations.

Mine safety: Waste Management of Hawaii was assessed a penalty of $100 by the U.S. Mine Safety and Health Administration in connection with the requirement to file quarterly reports with the MSHA.

Board diversity: While there is no formal policy with regard to consideration of diversity in identifying director nominees, the Committee considers diversity in business experience, professional expertise, gender and ethnic background, along with various other factors when evaluating director nominees.

Sustainability pay links: none.

• Transportation

Despite being another smaller sector with only nine companies, Transportation nonetheless was home to one of the study's six integrated annual financial and sustainability reporters—**Southwest Airlines**. A labor- and fuel-intensive industry, transportation to no surprise was the most likely of all sectors to report employment risks and opportunities across 10-K filings, annual financial reports and sustainability reporting platforms; companies exhibited above average rates of reporting climate-related risks and opportunities. The sector also posted the greatest proportion of companies discussing sustainability-related product developments and waste management. Environmental management, water use and ethics also were areas of higher levels of reporting for Transportation than other sectors. Within the sector, employment was followed by climate change, hazardous waste, environmental management and product formulations in areas most frequently the topic for disclosures. *(See table below.)*

All of these trends led to higher scoring for Transportation firms—27 points on average—than the S&P 500 (17.5 points), and the sector had the distinction of ranking first in rates for sustainability reporting, with all in the industry issuing some form of sustainability report.

The sector was roughly on par with the S&P 500 in reporting environmental liabilities and contingencies (33.3 percent compared to 38 percent for the S&P 500), but it ranked second only to Healthcare in disclosing other sustainability-related liabilities, with 66.7 percent doing so (versus 41.9 percent for the S&P 500.)

Transportation	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	0.0%	0.0%				
Conflict Minerals	0.0%	0.0%				
Government Payments	0.0%	0.0%				
Climate Change	77.8%	44.4%	77.8%	44.4%	77.8%	77.8%
Environmental Management	66.7%	11.1%	77.8%	22.2%	77.8%	66.7%
Water Use	11.1%	11.1%	11.1%	11.1%	33.3%	33.3%
Hazardous Waste	77.8%	0.0%	66.7%	11.1%	22.2%	22.2%
Waste Management	44.4%	33.3%	44.4%	33.3%	66.7%	66.7%
Product Formulations	55.6%	33.3%	66.7%	33.3%	88.9%	88.9%
Employment	88.9%	33.3%	88.9%	33.3%	77.8%	77.8%
Human Rights	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ethics	22.2%	0.0%	33.3%	11.1%	33.3%	33.3%

Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.

Areas where this industry group posted the highest percentage among all industries are highlighted in red.

Source: Sustainable Investments Institute (Si2), Washington, DC

Employment: Disclosures surrounding labor issues were extensive for the sector—made by close to 90 percent of the industry and at a rate in this area higher than any other industry. Many dealt with unionization and related regulations, especially in 10-K filings. Safety was another top risk but also opportunity and companies discussed it throughout their disclosures. The balance more broadly addressed employee recruitment and retention and programs aimed at these goals, including diversity, benefits and engagement. For example:

- **FedEx** highlighted in its 10-K filing that its U.S. FedEx Express employees are covered by the Railway Labor Act of 1926 (RLA), while labor relations within the United States at its other companies are governed by the National Labor Relations Act of 1935 (NLRA)—the law covering the vast majority of U.S. employees. This RLA has some benefits, FedEx notes. "Under the RLA, groups that wish to unionize must do so across nationwide classes of employees," it explained, and "The RLA also requires mandatory government-led mediation of contract disputes supervised by the National Mediation Board before a union can strike or an employer can replace employees or impose contract terms." Therefore, it said, "This part of the RLA helps minimize the risk of strikes that would shut down large portions of the economy," including its own operations. However, FedEx notes that the U.S. Congress has "considered adopting changes in labor laws that would make it easier for unions to organize units of our employees," namely by removing most FedEx Express employees from the jurisdiction of the RLA. It said this exposes its network "to sporadic labor disputes and the risk that small groups of employees could disrupt the entire air/ground network," in addition to related costs.

By contrast, in its sustainability report:

- **FedEx** discusses its efforts to boost employee satisfaction to foster and grow a business model based on customer satisfaction. It notes its extensive employee feedback and dialogue mechanisms aimed at tracking job satisfaction, loyalty, opinions of management, and on-the-job commitment of its customer-facing work force. Its most recently completed surveys had participation rates of 89 percent and were augmented by in-person feedback sessions and ongoing employee training. This effort is augmented by in-person town hall style-meetings, as well as one-on-one discussions with supervisors and managers, and also guides ongoing employee training, especially in customer relations. It also strongly invests in continued employee training and career development, with "more than 80 percent of the managers at FedEx Express" having been promoted from within. The success of these efforts, FedEx said, is reflected in it being honored as one of *Fortune's* "100 Best Companies to Work For" in 12 of the last 15 years. FedEx also noted that its worker safety programs and training were an "essential part" of its operations. Overall, it said, its FedEx Express safety program, "Safety Above All, has driven a nearly 56 percent reduction in vehicle accidents and employee injuries over the past 16 years."

Others had similar sustainability disclosures:

- **United Parcel Service** said in its sustainability report, "Good jobs and compensation packages make employed workers a positive economic force throughout the world," critical for a company that is "one of the world's largest private employers." Its "investment in UPS employees generally includes competitive wages and salaries, training, health care, savings plans, and incentive programs." It also devoted "substantial time and resources to improving the safety of our delivery services for our employees, customers, communities, and the environment," investing "$118 million in safety training alone in 2011." UPS did not, however, review the return it saw on this investment in reduced incidents, drops in lost work time or gains in productivity.

Climate change: Close to 80 percent of Transportation firms had something to say about climate change. More so than other sectors, the sector had a keen focus on fuel efficiency gains to combat greenhouse gas emissions given the nature of companies' operations; these included substantial investments in new operating equipment and related infrastructure. Many also saw competitive advantages to fuel efficiency, but regulation was still a thorny issue for many. For example:

- **CSX** in its 10-K filing said, "The U.S. demand to move more goods by rail is expected to rise along with the need to reduce highway congestion and greenhouse gas emissions," highlighting that CSX and freight railroads "are the best way to meet this demand while reducing environmental impacts." CSX pointed out that it "can move a ton of freight almost 500 miles on one gallon of fuel and, on average, over three times more fuel efficiently than trucks…"

  It still wasn't bullish on climate change regulation, though. It said climate change legislation or regulation "on the federal, state, provincial (Canada) and local levels," which "could take the form of restrictions, caps, taxes or other controls on greenhouse gas (GHG) emissions." This "could adversely affect CSX operations and financial results by, among other things:

  > "(1) increasing energy costs generally, making it difficult for the Company's customers in the U.S. and Canada to produce products in a cost competitive manner (particularly in the absence of similar regulations in countries like India and China);
  >
  > (2) increasing the Company's fuel, capital and other operating costs and negatively affecting operating and fuel efficiencies;
  >
  > (3) reducing coal-fired electricity generation due to mandated emission standards which CSX considers to be unachievable within the time frames ordered by the U.S. EPA, and
  >
  > (4) reducing the consumption of coal as a viable energy resource in the United States.

  Any of these factors could reduce the amount of traffic the Company handles and have a material adverse effect on the Company's financial condition, results of operations or liquidity." Coal producers and users are a huge market for CSX, as it explains in its 10-K filing, because its rail network connects coal mining operations in the Appalachian mountain region and Illinois Basin with industrial areas in the Northeast and Mid-Atlantic, as well as prime utility markets in both the Northeast and Southeast.

  At the same time, in its sustainability report, **CSX** further explained the coal dilemma for the company. Its normalized GHG emissions increased to its highest rate in the last four years. "Relative to the other products that we ship," it pointed it, "we gain the greatest fuel efficiency from transporting heavy commodities, such as coal." However, it said the volume of coal it shipped declined in 2011, while lighter commodity shipments increased. As such, the changing mix of the products it ships is affecting its fuel efficiency.

  It also reviewed investments it made in fuel efficiency that not only were cutting costs but also greenhouse gas emissions. One was a training program for engineers on a new technology—Event Recorder Automated Download (ERAD)—which saved 5.4 million gallons of fuel in 2011 alone. CSX also noted it put its 30th ultra-low emissions GenSet locomotive into operation in 2011; it is up to 25 percent more fuel efficient than other types.

  In the last decade, CSX has invested more than $1.75 billion in new locomotives and technology that have helped to improve fuel efficiency and reduce emission and more than $40 million in two separate idle reducing technologies, Auxiliary Power Units (APUs) and Automated Engine Start Stop (AESS) to reduce fuel use. Employees are also trained on proper locomotive shutdown rules to eliminate unnecessary idling. CSX also is testing friction reducers that have the potential to cut fuel use by 3 to 5 percent and installing trip optimizer software in locomotives that could deliver additional annual fuel savings of 5 percent to 7 percent. Overall, CSX has improved its emissions efficiency by 8 percent between 2006 and 2011 and plans to do so by another 6 to 8 percent by 2020.

- **United Parcel Service** in its sustainability report states the proposition upfront: "UPS's economic sustainability starts with helping other businesses become more sustainable. We do that by handling our customers' shipping and logistics activities more cost-effectively and resource-efficiently than they could do it themselves." A primary driver toward achieving this goal, it noted, is fuel efficiency. It highlighted that transportation is a carbon-intensive activity—generating less than 5 percent of the value of major output in the United States but accounting for 28 percent of the nation's greenhouse gas emissions.

  Of its total carbon equivalent emissions per the average sized package, UPS noted 11 percent are derived from facilities, 19 percent from pickup and delivery cars and trucks and 70 percent from aircraft, tractor trailers, rail and third-party carriers. Therefore, it has focused attention "on optimizing every aspect of our transportation network, and on making sure we are using the lowest-carbon option as often as possible. Planes are the most carbon-intensive, followed by trucks, trains, and ships." To do so, it has optimized planning and software to be able to shift between these modes to minimize fuel use and greenhouse gas emissions and also has invested in more fuel efficient airplanes and vehicles, including more than 2,500 low-emission vehicles that run on alternative fuels and technologies.

  With the efficiency of how it is using its airplanes' payload capacity being critical to improving efficiency, it set up a key performance indicator in 2011 of achieving 0.74 or less of total emissions in kilograms divided by the sum of maximum structural payload capacity weighted by annual aircraft cycles—a measure of aircraft emissions per payload capacity—and achieved 0.73. It also has set a goal to reduce its overall airline emissions by 20 percent by 2020 through further network efficiency improvements and capital investments in newer, more fuel efficient aircraft.

Hazardous waste: For transportation providers, fuel spills, as well as spills of other toxic materials being transported, were chief concerns and disclosures made by nearly 80 percent of them. For example:

- **Union Pacific** said in its 10-K filing, "The primary [environmental] laws affecting our operations are the Resource Conservation and Recovery Act, regulating the management and disposal of solid and hazardous wastes; the Comprehensive Environmental Response, Compensation, and Liability Act, regulating the cleanup of contaminated properties; the Clean Air Act, regulating air emissions; and the Clean Water Act, regulating waste water discharges..."

  Beyond its own immediate operations and risks to fuel spills, Union Pacific said a key concern for its business was that "federal laws require railroads, including us, to transport certain hazardous materials regardless of risk or potential exposure to loss. Any rail accident or other incident or accident on our network, at our facilities, or at the facilities of our customers involving the release of hazardous materials, including toxic inhalation hazard (or TIH) materials such as chlorine, could involve significant costs and claims for personal injury, property damage, and environmental penalties and remediation, which could have a material adverse effect on our results of operations, financial condition, and liquidity."

Others in the industry discussed their own use of hazardous materials. For example:

- **CSX** said in its sustainability report that it is "committed to replacing chemicals, paints and cleaners with safer, more environmentally friendly products where possible." It said it had already eliminated cleaners containing chlorinated solvents and low-flash-point mineral spirits and was moving away from oil-based paints to water-based, low-VOC paints. Overall, it said, it "cut its hazardous waste generation by more than 70 tons from 2010 to 2011," and its goal is to reduce its hazardous waste generation another 5 percent in 2012. Primary sources it will target are paint-related waste, solvents, traction motor wicks, damaged batteries and damaged fluorescent bulbs. The goals in this area, it noted, also helped address worker health and safety objectives and related cost savings and productivity improvements in those areas.

Environmental management: Information about managing environmental issues, offered by close to 80 percent of the firms, focused on the importance of regulatory compliance and the use of management systems to achieve that goal, as well as customer requests for such assurances. However, once again, companies did not disclose returns on investments in environmental management systems or other related expenditures to ensure environmental compliance. For example:

- **Norfolk Southern** said in its 10-K filing, "Compliance with federal, state, and local laws and regulations relating to the protection of the environment is a principal NS goal. To date, such compliance has not affected materially NS's property additions, earnings, liquidity, or competitive position." Nonetheless, NS said its "operations are subject to extensive federal and state environmental laws and regulations concerning, among other things, emissions to the air; discharges to waterways or ground water supplies; handling, storage, transportation, and disposal of waste and other materials; and the cleanup of hazardous material or petroleum releases," and "the risk of incurring environmental liability—for acts and omissions, past, present, and future—is inherent in the railroad business."

  Furthermore, it added, "environmental problems that are latent or undisclosed" may exist on properties it acquired from other companies, and NS "could incur environmental liabilities or costs, the amount and materiality of which cannot be estimated reliably at this time, with respect to one or more of these properties."

  Moreover, it said, "lawsuits and claims involving other unidentified environmental sites and matters are likely to arise from time to time, and the resulting liabilities could have a significant effect on financial position, results of operations, or liquidity in a particular year or quarter." NS said its "environmental engineers regularly participate in ongoing evaluations of all known sites and in determining any necessary adjustments to liability estimates," and it had "established an Environmental Policy Council, composed of senior managers, to oversee and interpret its environmental policy."

  Its operating expenses for environmental matters, including property additions, totaled $39 million in 2011, up from $34 million in 2010 and $31 million in 2009, and its environmental contingencies held in reserve on its balance sheet came to $35 million at the end of 2011 and $33 million at the end of 2010, of which $12 million is classified as a current liability at the end of each period. At the end of 2011, the $35 million represented NS's estimate of the probable cleanup and remediation costs based on available information at 149 known locations and projects with seven accounting for the bulk—$13 million.

- **Norfolk Southern** goes onto say in its sustainability report that its Safety and Environmental Department, with its three functional subgroups—environmental operations; environmental engineering, remediation, and compliance; and hazardous materials, administers its environmental management program. It has responsibilities for safety and is "an integral part of our core operating department." The environmental operations group provides emergency preparedness and response to spills and releases; manages the operation of approximately 80 wastewater treatment facilities; manages solid and hazardous waste programs as well as other environmental programs such as asbestos, battery, transformer and PCB management programs; and provide environmental engineering services, including construction of pollution-control equipment to ensure infrastructure is designed to meet or exceed various local, state, and federal environmental regulations.

NS routinely audits its "own operations to ensure compliance and to prevent the potential for compliance issues to arise." As evidence of the efficacy of these efforts, it notes that it was inspected on 60 occasions in 2011, but was issued no fines or penalties as a result.

- **Ryder System** said in its sustainability report that it has an environmental management system that "incorporates elements of the global ISO 14001 environmental management standard along with other environmental best practices that are unique to our operations and services." It noted that the system is "designed to…identify and control environmental impacts associated with business activities…improve environmental performance continually…[and] implement procedures that routinely evaluate and revise objectives based on identified environmental impacts and performance." The system also conforms to requirements of several of its customers.

Product formulations: Almost all of the firms in the sector, nearly 90 percent, had something to say about sustainability-related products. For example:

- **FedEx** in its sustainability report noted that its "customers value sound environmental practices." Therefore, "to help them save paper, time, and money," the company "introduced FedEx's Electronic Trade Documents, one of our EarthSmart Innovations," enabling customers in 81 countries to submit customs documents electronically using Electronic Trade Documents. In addition, the company launched its FedEx Carbon-Neutral Envelope shipping program to all FedEx envelope shipping options in April 2012, "making FedEx Express the first global express transportation company to offer carbon-neutral envelope shipping at no extra charge to the customer." Through this program, it said, "FedEx Express will make an investment in global projects that displace or sequester greenhouse gas emissions from the atmosphere, neutralizing the impacts of the carbon emissions emitted during the shipment of all FedEx envelopes around the world."
- **Ryder System** described its Green Services in its sustainability report, which include offering flexible leasing programs for alternative fuel vehicles and RydeSmart telematics technology designed to help customers improve vehicle operations and lower operating expenses including fuel costs. RydeSmart is deployed in approximately 23,000 leased and rental vehicles and helps fleet managers achieve a 10 to 15 percent reduction in fuel and greenhouse gas emissions through improved routing and reduction of unauthorized idle time.
- **Expeditors International of Washington** in its sustainability report explained how it is helping many of is shippers reallocate "dead space" in containers. It noted that many shippers "allow their vendors to fill their own containers leaving lots of dead space unused," space that is paid for and "overinflates the need for spaces as well as number of ships required on the world's busiest trade lanes." However, Expeditors' Order Management services enables its customers to reduce their total spending on shipping containers through "multiple vendor consolidation in their key origins by purchasing fewer containers," which also adds up to "less cost and a smaller carbon footprint."

Waste management: Most of the companies in the industry—about two-thirds—had discussed waste in filings, with most identifying projects saving them money while helping the environment. For example, **United Parcel Service** in its sustainability report explained that most of its solid waste comes in the form of corrugated containers and wood pallets used in shipping. In 2010, UPS says it began to give many of its 1,000-plus locations more flexibility to invest in recycling programs and activities. "A significantly higher percentage of facilities participated in 2011, helping increase the tonnage of solid waste recycled in the United States 2.1 percent in 2011 compared to 2010," which in turn "saved UPS more than $1.6 million in disposal costs."

Water use: About a third of the companies in transportation were measuring water use and looking toward efficiencies and savings in that area. For example:

- **United Parcel Service** said in its sustainability report that it recognizes efficient water use is part of its strategy in the design and maintenance of its distribution facilities, as well as its multi-client sites for maximum efficiency: "We also operate multi-client facilities that help everyone minimize energy, water use, and waste." It also sees the growing risks in this area for its business. It used the Global Water Tool of the World Business Council for Sustainable Development (WBCSD) in 2011 to map these risks and found thath "over the next few decades, UPS (like many businesses around the world) will see water scarcity and water stress issues affecting a significantly higher number of locations where we have facilities." It added, "Gathering this intelligence well ahead of time is one of the reasons we began using the Global Water Tool. It enables us to anticipate which areas will be affected so that we can design strategies, implement them, and refine them before material risks arise."

  The company also learned from its 2011 survey that approximately 20 percent of its buildings in the United States account for 80 percent of its total water usage and water cost, mirroring the company's energy footprint. "It is now clear that we will concentrate our water conservation and stewardship efforts on buildings within the top 20 percent for water usage and cost and those in locations where we have concerns about water risk or water scarcity," UPS said.

  UPS measures its water use using estimates for absolute amounts, along with several key performance indicators. Its total consumption for 2011 was 5.57 million cubic meters of water, down 6 percent from 5.9 in 2010, but up from 4.52 in 2009 and 5.04 in 2008. However, measured on an efficiency basis, its consumption had dropped steadily over the period, from 1.28 cubic meters per 1,000 packages carried in 2008 to 1.16 in 2011. It also dropped as an intensity measure of revenue, from 0.139 cubic meters per $1,000 in revenue in 2008 to 0.124 in 2011. "As in prior years," UPS said, "we minimized water use in many ways throughout our operations. We wash our vehicles only as needed to maintain appearance; we dry-wash our airplanes; and we use an environmentally friendly enzyme wash agent that reduces the need for rinse water. In addition, we continue to upgrade our facilities with low-flow water fixtures and design them into our new facilities."

- **CSX** pointed to similar risks in its sustainability report, although acknowledged it was behind the curve in measurement and strategy. "We are aware of the high water use throughout our company," it said. "We are currently planning for improved long-term water management strategies across our major operations," and the company saw these moves as an integral part of its "investing more to use less at CSX" sustainability strategy. It made some investments in 2011, installing a process water-recycling unit in Corbin, Kentucky, to reduce potable water use, and it measured its total water use in 2011—1,412,637 thousand gallons of water. It concluded, "We are implementing programs to track water use and recognize the need to evaluate how water use can be reduced company-wide."

Ethics: While less apt to post disclosures in this area, a third of companies in the sector overall did and were equally likely to talk about risks from ethical lapses as opportunities to preserve brand value in this context—at least in sustainability reporting mechanisms:

- **Fedex** was a good example across all reporting platforms, including in its 10-K filing, where it acknowledged that “FedEx is one of the most widely recognized, trusted and respected brands in the world, and the FedEx brand is one of our most important and valuable assets. In addition, we have a strong reputation among customers and the general public for high standards of social and environmental responsibility and corporate governance and ethics. The FedEx brand name and our corporate reputation are powerful sales and marketing tools, and we devote significant resources to promoting and protecting them.”

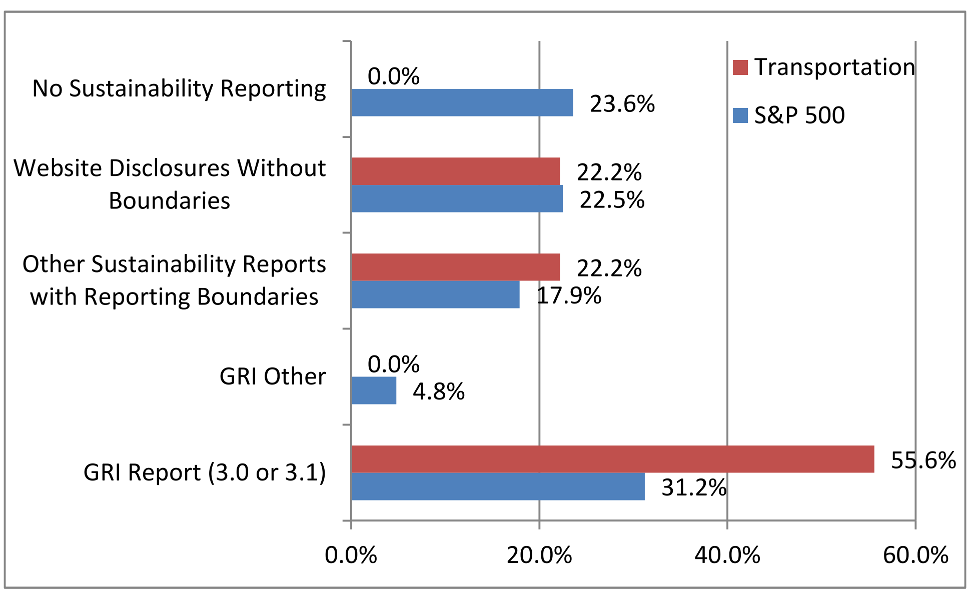
  Therefore, FedEx said, “Adverse publicity (whether or not justified) relating to activities by our employees, contractors or agents, such as customer service mishaps or noncompliance with anti-corruption laws, could tarnish our reputation and reduce the value of our brand.”

  It noted how social media was complicating the challenge to defend its brand. “With the increase in the use of social media outlets such as YouTube and Twitter, adverse publicity can be disseminated quickly and broadly, making it increasingly difficult for us to defend against. Damage to our reputation and loss of brand equity could reduce demand for our services and thus have an adverse effect on our financial condition, liquidity and results of operations, as well as require additional resources to rebuild our reputation and restore the value of our brand.”

Still, a handful of other focused on regulatory risks in this area:

- **Expeditors International of Washington** in its 10-K said that it “operates in parts of the world where common business practices could constitute violations of the anti-corruption laws, rules, regulations and decrees of the United States, including the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act and of all other countries in which the Company conducts business; as well as trade control laws, or laws, regulations and Executive Orders imposing embargoes and sanctions; and anti-boycott laws and regulations.” It added, “Failure to comply could result in substantial penalties and additional expenses, damages to the Company’s reputation and restrictions on its ability to conduct business.”

Sustainability reporting: The transportation sector was the only one to have all companies issue some form of sustainability report, well ahead of the S&P 500 average of 76.4 percent. As noted in the bar chart, transportation firms also were far more likely to use GRI’s 3.0 or 3.1 reporting standards at a rate of 55.6 percent, well above the S&P 500 average of 31.2 percent.



Financials in sustainability reports: With all firms in the sector issuing a sustainability report of some form, the following statistics represent the entire sector. More than half of transportation companies—55.6 percent—posted consolidated or full financials with their sustainability reports, while a third offered some form of economic snapshot of company operations and only a tenth offered no financial information. The sector was the second most likely to include financials in sustainability reporting.

Board diversity: The sector also was the most likely to mention race and/or gender as a factor in director nominations, with 77.8 percent doing so—well above the S&P 500 average of 37.2 percent. Disclosures in this area, however, followed others throughout the index. For example, **United Parcel Service** said in its proxy statement, “The Nominating and Corporate Governance Committee considers diversity in identifying nominees for director, including personal characteristics such as race and gender, as well as diversity in experience and skills relevant to the board’s performance of its responsibilities in the oversight of a complex global business.”

Pay links: Transportation lagged the broader S&P 500 in having executive pay linked to environmental criteria at a rate of 11.1 percent versus 13.3 percent, but it bested the index average for social links (33.3 percent compared with 27.2 percent) and ethical ties (11.1 percent compared with 10.7 percent). **CSX** hit squarely on two—social and ethical—and implied environmental in its proxy disclosure, noting that its compensation committee weighed the following factors, among others, in deciding upon annual incentive pay for named executive officers: contribution to CSX’s safety performance; effectiveness in leading CSX’s initiatives to increase customer service, productivity, and employee development; and contribution to CSX’s commitment to corporate responsibility, including the executive’s success in creating a culture of unyielding integrity and compliance with both applicable laws and CSX’s ethics policies.” Although it was tenuous, Si2 credited CSX for having links in all three areas.

Points: As noted earlier, transportation firms came in third in overall points used in this analysis for measuring reporting levels, with an average score of 27, well ahead of the S&P 500 average of 17.5. Top in points (and tied for eighth overall) was Southwest Airlines with 47. Southwest is profiled below.

Sector Profile: Southwest Airlines

The low-cost airline leader in the United States, Southwest has been taking market share from more traditional, legacy network carriers in the United States with its no-frills, no-hassle approach to air travel and frequent point-to-point services to popular tourist and business destinations. Now the largest carrier of U.S. passengers and the fourth largest U.S. carrier by revenues, Southwest also has the distinction of being the most consistently profitable—for 39 straight years, in an industry with a reputation for record losses in recent decades. It also has the bragging rights for being one of only six truly integrated annual financial and sustainability reporters among the S&P 500; it also issued its annual report in accordance with GRI 3.0 and had its report verified as a B+ level report. It also had a board diversity statement and pay links to safety and people metrics. As with other transportation providers, fuel and labor were key sustainability factors driving financial results and reporting.

Climate change: In its 10-K, Southwest observed, “the federal government, as well as several state and local governments, are considering legislative and regulatory proposals to address climate change by reducing greenhouse gas emissions.” It points to recent developments on reporting and potential regulations from the EPA following its endangerment finding in January 2010 about GHG emissions. Southwest said, “The airline industry could be affected directly through new unfunded mandates or indirectly through higher fuel costs as fuel providers pass on any additional costs to fuel consumers. Regardless of the method of regulation, policy changes with regards to climate change are possible, which could significantly increase operating costs in the airline industry and, as a result, adversely affect operations."

To hedge against climate and fuel risks, Southwest announced in December 2011 that it would be the launch customer of the Boeing 737 MAX—designed to be up to 19 percent more fuel efficient than present models—with a firm order for 150 aircraft for delivery beginning in 2017. It touched upon this investment and others in its fleet, including a new cabin interior design, in its 10-K that it expanded upon in its integrated One Report. Southwest further explained in its One Report that the 737 Max order was on top of 58 additional orders for 737 Next Generation aircraft, topping off firm orders for this earlier series at 200 for 350 total firm orders from Boeing. It emphasized that the 350 firm orders from Boeing from 2012 through 2024 "are intended to predominately serve as replacement aircraft for our older, less efficient fleet." It notes that its 737 Next Generation orders, for the current, less fuel efficient model give incremental fuel efficiency gains from older aircraft and also include a slightly larger model that will help Southwest "reduce our unit operating costs as well as our greenhouse gas emissions."

In addition, Southwest Airlines noted in its One Report that it has "invested more than $375 million dollars in numerous projects to improve the fuel efficiency of our fleet," including winglet additions, engine upgrades, engine washes, use of ground power at airport gates, controlling ground idle speeds, and equipping our entire fleet with satellite-based navigation to enable our aircraft to fly more efficient routes." As a result, its jet fuel consumption—a key greenhouse gas and cost indicator for the company—was 1.76 billion gallons of jet fuel, and its fuel efficiency was 68.3 available seat miles (ASMs) per gallon in 2011, representing a drop from 68.5 in 2010, although off a historic low of 64.0 in 2008. Southwest also signed a letter of intent in 2011 to purchase a small portion of jet fuel derived entirely from biomass— post-recycled urban and agricultural waste—from Solena Fuels in Northern California; it is the first commercially approved and viable fuel of its kind. The biomass, it said, will have lower GHG emissions and typical combustion pollutants than petroleum-based fuels. Southwest is working with industry groups, too, on fuel alternatives.

Southwest Airlines also highlighted its millions of dollars in investments to reduce GHG emissions from the use of its ground service equipment, including "replacement of fossil fuel-burning equipment with electric equipment, using alternative fuels, and retrofitting diesel-powered equipment with more efficient engines with reduced emissions." It also warned that "added costs related to emissions fees could decrease the funds available for these types of fuel-efficiency improvements and GHG emissions reduction projects…"

In January 2012, Southwest unveiled a new cabin interior design "that uses durable and environmentally responsible products to reduce waste and create weight savings onboard the aircraft, while at the same time increasing the number of seats and enhancing Customer comfort," another fuel saving measure it plans to fully implement by the end of 2013. The lighter, environmentally friendly materials, such as the E-Leather seat covers used in the seats, reduce aircraft weight for its typical 737-700 aircraft by 635 pounds, thereby improving fuel burn. The seats are slimmer and allow Southwest to carry six more passengers on its planes while not reducing personal space or comfort. When fully rolled out, the additional seats will equal the capacity of 16 new aircraft. All of these attributes reduce fuel consumption, costs and GHG emissions for Southwest.

Southwest also said that it had invested in electricity conservation at its company-owned (as opposed to leased) facilities, where it can have the greatest impact. One of its major projects was its "Dallas Love

Field Modernization Program… the Southwest Airlines-funded construction of our General Use Building, which received LEED (Leadership in Energy and Environmental Design) Silver certification for new construction and major renovations under the U.S. Green Building Council." The 55,000-square-foot facility consolidated three previously separate facilities. Southwest also engages a management consultant, Summit Energy Services, to wring out additional energy efficiency cost savings, as well as an agreement with Reliant Energy to provide more than 15.7 million kilowatt-hours of renewable energy a year for its Dallas and Houston facilities.

Overall on GHG emissions, Southwest reported total emissions, as well as several intensity measures. In absolute measures, its total emissions were up in 2011 from 2010 from 14.0 million metric tons equivalent of carbon dioxide to 17.5. However, its intensity of emissions as measured by available seat miles and revenue passenger miles remained steady.

Employment: As was a common theme throughout the Transportation industry, Southwest discussed the Railway Labor Act and its jurisdiction over unionization and collective bargaining for airline employees, including its own. The company has its unique requirements on nationwide classes of employees needed to qualify to form unions. It also has mandatory government-led mediation of contract disputes supervised by the National Mediation Board before a union can strike or an employer can replace employees or impose contract terms, somewhat minimizing risks to labor disruptions.

At the end of 2011, about 82 percent of pre-merger Southwest employees and 81 percent of its recently acquired AirTran employees were unionized, and Southwest noted that a majority of the Southwest employee groups "have labor agreements that are either currently in negotiation or become amendable in 2012, which could continue to put pressure on the company's labor costs." In addition, it said that it "anticipates that the combination of the various Southwest and AirTran labor contracts and frontline workforces will increase AirTran labor costs over their historical levels." All of these factors, it said, placed risks to its low-cost advantage and overall competitive outlook in the airline industry. For example, it notes, "the airline business is labor intensive; therefore, the Company would be adversely affected if it were unable to maintain satisfactory relations with its Employees or its Employees' Representatives."

At the same time, it highlighted, "Salaries, wages, and benefits represented approximately 29 percent of the Company's operating expenses for the year ended December 31, 2011." It added, "Employment-related issues that may impact the Company's results of operations, some of which are negotiated items, include hiring/retention rates, pay rates, outsourcing costs, work rules, and health care costs." In addition, delays in integrating AirTran workers into its own workforce, including contract negotiations over the terms for combining work groups, it said, could delay the realization of "synergies and other benefits" from the merger or spark "labor disputes."

In its One Report, Southwest highlighted its efforts to attract and retain employees as well as to foster a positive employment culture that drove high levels of customer service. It notes that it offers employees competitive pay, as well as medical, prescription, vision, dental, retirement, travel, adoption, long-term disability, life insurance and other benefits. It also noted that safety was a key component to its employment culture, as well as a driver of its operations results. Its employees participated in more than 800,000 hours of safety and security training during the year. It also highlighted its diversity efforts, which it said were key to developing "a multifaceted workforce with a variety of backgrounds and experiences" that "is an asset" to the company's culture.

Environmental management: In its 10-K filing, Southwest cited the Clean Air Act, the Resource Conservation and Recovery Act, the Clean Water Act, the Safe Drinking Water Act, and the Comprehensive Environmental Response, Compensation and Liability Act as particularly relevant to its operations. It explained, "These laws and regulations govern aircraft drinking water and the discharge or disposal of materials such as chemicals, hazardous waste, and aircraft deicing fluid," and it also, "undertakes voluntary investigation or remediation of soil or groundwater contamination at several airport sites." Southwest said it "does not believe that any environmental liability associated with these airport sites will have a material adverse effect on the Company's operations, costs, or profitability, nor has it experienced any such liability in the past that has had a material adverse effect on its operations, costs, or profitability."

Southwest also mentioned further regulatory developments pertaining to the control of engine exhaust emissions from ground support equipment as having the potential to increase operating costs in the airline industry. Noise was another issue, Southwest explained, in reference to the Airport Noise and Capacity Act of 1990, which "gives airport operators the right, under certain circumstances, to implement local noise abatement programs..." It pointed out that "some airports have established airport restrictions to limit noise, including restrictions on aircraft types to be used and limits on the number of hourly or daily operations or the time of operations," and "these types of restrictions can cause curtailments in service or increases in operating costs…"

In its integrated "One Report," Southwest added that it is striving toward an "annual goal of zero recorded environmental violations" as part of its environmental policy and it met that goal in 2011. It said its environmental management system, led by its Environmental Services Team in the General Counsel Department, was "responsible for providing the framework that helps us achieve our environmental goals," which include "mitigating risks of non-compliance with environmental laws and regulations as well as ongoing review and improvement of our environmental policies, procedures, and goals." Southwest also has a formal auditing program to help flag compliance issues and trigger corrective action where needed to improve operational performance and overall efficiencies.

Waste management: The new, more sustainable design of its seats for its new cabin interiors, dubbed Evolve, also played a central role in Southwest's reporting on waste. The plan includes recycling old seat frames for the new seats, saving the company $50 million and eliminating waste. "The eco-friendly materials used in the new Evolve interior also incorporate more durable finishes, which will increase the lifespan of our cabin interior, saving on replacement costs," from four years presently to six years of service. Beyond the seats, the new interior carpet is carbon neutral and composed of carpet squares made from recycled materials, which Southwest said will limit the need for total replacement of individual areas due to wear, further "reducing labor and material costs." The new life vest pouch also "is more environmentally friendly, offering a weight savings of one pound per seat," while expanding under seat storage for baggage. In addition, its "new bulkhead product has a longer lifespan" and other finishing pieces are made from recyclable aluminum instead of plastic—all of which reduce "labor costs and waste that result from more frequent replacements or repairs." Southwest also recycled "more than 2,600 tons of paper, plastic, aluminum, and cardboard from onboard our aircraft and in our facilities," representing a 5 percent improvement from 2010. It is striving for 2.5 percent annual gains in this area for a total of 10 percent by 2015 using 2011 as a base.

Hazardous waste: Southwest also disclosed in its One Report that 51 incidents in 2011 spilled 650 gallons of hazardous materials, including jet fuel and chemicals. It tracks spills "using an online spill reporting form," which "not only makes it simple for our Employees to report a spill in a timely and accurate manner, but it also provides automatic e-mail distribution to the entire Environmental Services Team upon submittal for quick response and reporting to regulatory agencies when required." The systems also helps mitigate damage and overall costs, it said. Southwest also noted that it continually reviewed hazardous chemicals it purchases to reduce toxicity and risks.

Water: Southwest's estimate in its One Report for its total water consumption in 2011 was based upon the 26 facilities where it pays for water usage and totaled 79 million gallons. It did not include bottled water served on board its aircraft, which is purchased from a beverage supplier. It has projects to reduce water use and costs of both aircraft cleaning, dry cleaning and landscaping.

Ethics: In its 10-K filing, Southwest reported an ongoing lawsuit it inherited from acquiring AirTran Airways, filed with the United States District Court for the Northern District of Georgia in Atlanta in 2009. The complaint, which also involves Delta Air Lines, alleged "that AirTran attempted to monopolize air travel in violation of Section 2 of the Sherman Act, and conspired with Delta in imposing $15-per-bag fees for the first item of checked luggage in violation of Section 1 of the Sherman Act." Southwest continues to vigorously defend the suit. Southwest also highlighted in its One Report the importance of its ethics program in preserving its integrity.

Board diversity: Southwest said in its proxy statement, "Diversity is one of many factors considered by the Board in assessing the qualifications of Board candidates. Furthermore, in considering diversity, the Board takes into account various types of diversity, such as diversity of experience, geography, gender, ethnicity, color, and age, with the goal of obtaining diverse perspectives."

Pay links: Southwest disclosed in its proxy statement that it linked the annual bonus incentives for several named executive officers to metrics surrounding employees. These included the successful negotiation of labor contracts with key union groups, as well as broader employee relations.

• Consumer Durables

Consumer Durables firms make a wide variety of products, including automobiles, motorcycles, household appliances, tools, toys, apparel, footwear and even homes, all with greatly varying sustainability challenges. Players in the industry also differ in the extent to which they engage directly in making the products they brand and sometimes sell in company-owned retail outlets, as well as in whether they hire contract labor; these differences further multiply the types of sustainability risks and opportunities the sector faces and the types of disclosures it yielded. Topics most mentioned by the group were hazardous waste, followed by employment, environmental management, climate change, human rights, ethics and product formulations. In comparison to other sectors, Consumer Durables were more apt to disclose risks related to conflict minerals, human rights and ethics, as well as water use, waste management and product formulations more broadly across document types. *(See table below.)*

Using Si2's points system to more generally gauge disclosure, the sector averaged 15.9 points, slightly below the S&P 500 average of 17.5. None in the sector were true integrated reporters but they were very slightly more prone to issue sustainability reports—76.5 percent—compared with the S&P 500 average of 76.4 percent. They fell well behind average in board diversity statements and sustainability pay links, except in the area of ethics. The sector also registered below average for rates of disclosures for environmental issues (23.5 compared with 38 percent for the S&P 500) and other sustainability-related liabilities and contingencies (17.6 percent versus 41.9 percent for the S&P 500).

Consumer Durables	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	0.0%	0.0%				
Conflict Minerals	5.9%	0.0%				
Government Payments	0.0%	0.0%				
Climate Change	29.4%	11.8%	11.8%	5.9%	47.1%	41.2%
Environmental Management	35.3%	0.0%	29.4%	11.8%	58.8%	58.8%
Water Use	17.6%	5.9%	23.5%	11.8%	35.3%	35.3%
Hazardous Waste	52.9%	5.9%	47.1%	0.0%	11.8%	11.8%
Waste Management	11.8%	0.0%	17.6%	11.8%	52.9%	47.1%
Product Formulations	23.5%	17.6%	29.4%	23.5%	47.1%	47.1%
Employment	47.1%	11.8%	35.3%	11.8%	52.9%	47.1%
Human Rights	29.4%	0.0%	11.8%	0.0%	35.3%	11.8%
Ethics	29.4%	0.0%	17.6%	0.0%	5.9%	0.0%

Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.
Areas where this industry group posted the highest percentage among all industries are highlighted in red.
Source: Sustainable Investments Institute (Si2), Washington, DC

Employment: About half of the industry had disclosures related to labor, with slightly more placing the information in sustainability reports, especially opportunities, as opposed to annual reports or 10-K filings. However, the risks and opportunities described differed considerably depending on the degree of manufacturing, or in one case construction, in which the companies engaged, as opposed to retail operations and brand management. On the manufacturing side with a more highly skilled and unionized workforce:

- **Whirlpool** cited risks in its 10-K filing related to potential underfunding of its pension plans and post-retirement healthcare benefit programs, including "significant changes in funding assumptions or significant increases in funding obligations due to regulatory changes" that "could adversely affect our financial results." It explained it has both funded and unfunded defined benefit pension plans that cover certain employees in North America, Europe, Asia and Brazil, as well as unfunded postretirement health care benefit plans for eligible retired employees.

It froze its U.S. defined benefit plans at the end of 2006 for almost all of the participants, replacing it with a defined contribution plan, to mitigate risks and cost pressures, and its "projected benefit obligations under our pension plans and postretirement health care benefit programs exceeded the fair value of plan assets by an aggregate of approximately $1,990 million." Notwithstanding its present position in regard to these plans, Whirlpool still said its assumptions underlying its projected obligations change and "may materially affect our postretirement obligations and related future contributions and expenses."

On labor relations, Whirlpool noted that various labor unions with separate collective bargaining agreements represent approximately 59 percent of its employees. As a result of periodic bargaining pressures, it "may be subject to employee work stoppages that, if such events were to occur, may have a material adverse effect on our business, financial condition, or results of operations." Furthermore, it said, "we cannot be assured that we will be able to renew collective bargaining agreements on the same or similar terms, or at all, which may also have a material adverse effect on our business, financial condition, or results of operations."

Whirlpool also outlined for investors risks and opportunities in attracting and retaining qualified employees crucial to its management and operations in the home appliance industry.

With a largely contracted, but at times unionized, workforce in the homebuilding business:

- **Pulte Group** in its 10-K filing noted that its employees were largely not unionized, although contracted work was performed by union contractors. It focused on describing its paid incentive compensation plans for managers and the larger autonomy it gave its business units in hiring, firing and compensation decisions. It said it saw minimal risks and considered its "employee and contractor relations to be satisfactory."

Meanwhile, representing retailers:

- **Coach**, which designs, markets and sells luxury handbags, footwear and accessories, described in its 10-K filing its largely part-time, seasonal workforce, comprised of retail workers. It noted many of its full-time employees were covered by collective bargaining agreements, but that its relations with its employees were good. In fact, it said it had never encountered a strike or work stoppage. It described most risks related to labor in its supply chain of independent manufacturers. It said these risks included "compliance with labor laws and other foreign governmental regulations…increases in the cost of labor," among other contributing factors that could lead to the delay in shipments, product quality and other operational issues.

As noted above, disclosures on employment in sustainability disclosures tended to emphasize more positive aspects such as diversity:

- **Newell Rubbermaid** said in its sustainability report that its "mission is to foster an inclusive workplace that mirrors the diversity of our marketplace, reflects positively on the company externally and engages the entire organization." It added that "the business case" for diversity "is increasingly clear, based on rapid demographic changes within the United States and around the world." It explained, "Having a workforce that closely mirrors the marketplace allows us to better understand and serve the needs of increasingly diverse consumers." It added, "A global, diverse workforce gives us a broader view of the world and helps us use our differences and similarities to deliver best-in-class results."

Hazardous waste: About half of the industry had disclosures on hazardous waste qualifying for this study's parameters, and the industry as a whole fell below S&P 500 averages for information in this area, with the small caveat for details on opportunities in 10-K filings. Information varied widely, with some focusing on product formulations and consumer safety and still others on manufacturing pollution. In the product column:

- **Mattel** said in its 10-K filing that its products sold in the United States "are subject to the provisions of the Consumer Product Safety Act, as amended by the Consumer Product Safety Improvements Act of 2008, the Federal Hazardous Substances Act, and the Consumer Product Safety Improvement Act of 2008, and may also be subject to the requirements of the Flammable Fabrics Act or the Food, Drug, and Cosmetics Act, and the regulations promulgated pursuant to such statutes."

  It explained, "These statutes and the related regulations ban from the market consumer products that fail to comply with applicable product safety laws, regulations, and standards," and at times may prompt the Consumer Product Safety Commission to require the "recall, repurchase, replacement, or repair of any such banned products or products that otherwise create a substantial risk of injury and may seek penalties for regulatory noncompliance under certain circumstances." Mattel notes some U.S. states have similar laws, as do international markets where it sells products, and all of these regulations pose risks to its operations.
- Similarly, **Harman Industries** in its 10-K filing focused on the European Union's (EU) Directive on the Restriction of Use of Certain Hazardous Substances in Electrical and Electronics Equipment (EU RoHS), which it says "restricts the placement into the EU market of electrical and electronic equipment containing certain hazardous materials, including lead, mercury, cadmium and chromium." It also is subject to the EU's Waste Electrical and Electronic Equipment Directive, "which regulates the collection, recovery and recycling of waste from certain electronic products." Both, it noted, hold risks and costs for its operations.

On the manufacturing side:

- **Newell Rubbermaid** reviewed numerous regulations regarding the handling, storage and disposal of hazardous materials and also focused on an ongoing dispute it has with the City of Sao Paulo's Green and Environmental Office. It says the city office "is seeking fines of up to approximately $4.0 million related to alleged improper storage of hazardous materials at the Company's tool manufacturing facility located in Sao Paulo, Brazil." Rubbermaid plans to continue to contest the fines. The company also noted that it also was involved in various disputes concerning U.S. federal and state environmental laws and regulations, "including matters in which the Company has been identified by the U.S. Environmental Protection Agency and certain state environmental agencies as a potentially responsible party at contaminated sites under the Federal Comprehensive Environmental Response, Compensation and Liability Act and equivalent state laws."

Environmental management: Almost 60 percent of the sector had environmental disclosures related to both risks and opportunities in sustainability reporting mechanisms, and about a third described related risks in 10-K filings and annual reports. Most focused on regulation and management systems. For example:

- **Whirlpool** in its 10-K filing reviewed environmental laws and regulations, including governmental licenses and permits with regard to wastewater discharges, air emissions, and hazardous waste management, applicable to its business. It said its own policies were equal to or more stringent than mandates in all jurisdictions but enhance its operational performance. It noted that to its knowledge it was "in compliance, in all material respects," with applicable environmental rules governing its business as well as its own policies, and it added that "compliance with these environmental laws and regulations has not had a material effect on capital expenditures, earnings, or our competitive position during 2011 and are not expected to be material in 2012."

  It noted that the entire major home appliance industry was contending with the adoption of stricter governmental energy and environmental standards, including the "general phase-out of ozone depleting chemicals used in refrigeration, energy standards rulemakings for selected major appliances, regulatory restrictions on the materials content specified for use in our products by some jurisdictions, and mandated recycling of our products at the end of their useful lives." It said it would be required to change product designs to meet these standards that might increase its costs.

  It also disclosed that it might be party to several Superfund sites but that it did not believe those would be material to its results either, although it warned its assumptions and unforeseen legal proceedings could change its forecast. It goes onto disclose in its sustainability report that its environmental management systems are designed to mitigate these risks, are built around ISO 14001 and OHSAS 18001, and include in-house monitoring efforts and external auditors. By the end of 2011, nearly 30 percent of its manufacturing facilities had achieved certification with IS0 14001 and/or OHSAS 18001.

- Similarly, **Snap On** in its 10-K filing also described how its risks related to environmental liabilities and compliance with applicable laws and regulations "are managed through the Snap-on Environmental, Health and Safety Management System, which is applied worldwide." Like Whirlpool and many others in the sector, Snap On's system is certified to ISO 14001:2004 and OHSAS 18001:2007, and verified through and independent auditor—Det Norske Veritas (DNV) Certification in Snap On's case. Snap-on said it "believes that it complies with applicable environmental control requirements in its operations," and "expenditures on environmental matters…have not had, and Snap-on does not for the foreseeable future expect them to have, a material effect upon Snap-on's capital expenditures, earnings or competitive position."

Climate change: With almost half of Consumer Durables companies disclosing information on climate change across reporting platforms, the data Si2 collected included regulatory risks, as well as gains from product innovations and operational efficiencies. For example:

- **Harley Davidson** in its 10-K filing flagged that as a result of "concerns about global climate changes, the Company may face greater regulatory or customer pressure to develop products that generate less emissions." These developments, in turn, it said "may require the Company to spend additional funds on research, product development, and implementation costs and subject the Company to the risk that the Company's competitors may respond to these pressures in a manner that gives them a competitive advantage." It said its operations also could be affected by increased GHG regulations in the United States and elsewhere due to mounting evidence from scientists and concerns from legislators. In addition, it said, "several states, including states where the Company has manufacturing plants, are considering various greenhouse gas registration and reduction programs."

Related to this topic, Harley Davidson said, were concerns surrounding energy security, availability and related costs for its manufacturing operations in the United States, including its supply chain. It noted that its plants use electricity and natural gas that might be buffeted by price hikes for electricity and gas and access to energy sources, especially cleaner burning natural gas, as a result of regulation. At the same time, some of its plants generate energy and emit greenhouse gases "that may be affected by these legislative and regulatory efforts," including the need to purchase carbon offsets. All of its operations could incur higher costs related to higher prices of other commodities and raw materials also feeling pressures from regulation.

It concludes, "While additional regulation of emissions in the future appears likely, it is too early to predict how this regulation will ultimately affect the Company's business, operations or financial results." It added, "Physical risks to the Company's business operations as identified by the Intergovernmental Panel on Climate Change and other expert bodies include scenarios such as sea level rise, extreme weather conditions and resource shortages." It noted, "Extreme weather may disrupt the production and supply of natural gas, a fuel necessary for the manufacture of motorcycles," and "Supply disruptions would raise market rates and jeopardize the continuity of motorcycle production."

- **Harman International Industries** in its 10-K identified that certain of its lifestyle products "will require submission of energy-use profiles in accordance with the EU Energy Using Products Directive." In response, it said, it was "modifying the design and energy-use profiles of our products to comply with applicable laws and regulations," which was adding costs. Additionally, it said that the "U.S. Department of Energy has promulgated a regulation pertaining to external power supplies and compliance with the energy efficiency standards that were established under the Energy Independence and Security Act of 2007," and it "will address these requirements as necessary." It also noted under climate risks that its "products may also become subject to further energy efficiency requirements if and when required under U.S. federal climate change legislation."
- By contrast, **Newell Rubbermaid** focused on energy efficiency gains in its sustainability report, noting that it had developed key performance indicators for energy use. It said it gathered energy use data for its operations in 2008, which "identified eight manufacturing facilities that accounted for more than 50 percent of the total energy used by the company, with an annual energy spend of approximately $40 million." In response, it assembled "representatives from each of these facilities along with internal and external experts for an inaugural energy conservation workshop to jump start energy conservation at these facilities," and it conducted a similar summit on energy at the same facilities in 2010.

  As a result, its "energy management team has implemented many initiatives within our buildings, including installing more efficient lighting, water and HVAC systems." It is "working to expand these efforts by helping all of our manufacturing and distribution facilities realize best practices of increased energy savings in their processes and operations." To illustrate, it described how its industrial band saw blade maker, Lenox, replaced seven individual legacy electric furnaces with a single state-of-the-art furnace, which has the equivalent production capacity of previous equipment but lowers power consumption by more than 1.2 million kWh, representing an energy savings of more than 55 percent. "The investment in efficiency," Rubbermaid said, "saves Lenox nearly $157,000 in average annual energy costs, and earned a rebate of $394,000 from the public utility that serves the plant." It also significantly curtailed GHG emissions for the facility.

- Meanwhile, **Whirlpool** said in its 10-K that it had reaped a boon in sales of energy efficient appliances, resulting from the Tax Relief, Unemployment Insurance Reauthorization and Job Creation Act of 2010 and The Emergency Economic Stabilization Act of 2008. It explained that both laws "provided a wide-range of provisions that were intended to ensure that conservation and efficiency were a central component to the United States energy strategy," including "manufacturers' tax credits for the accelerated United States production of super-efficient clothes washers, refrigerators and dishwashers that meet or exceed certain Energy Star thresholds for energy and water conservation levels as set by the United States Department of Energy." The tax credits applied to eligible production during the 2008 to 2011 calendar years. As it had "historically, and will continue to, invest over 2 percent of our annual sales in research and development to provide innovative and energy efficient products for our customers," it said it recognized a tax credit benefit under the provisions of the Act in 2011, 2010 and 2009 related to the production of qualifying appliances.

Human rights: A factor mentioned by a third of the companies in sector, most were companies outsourcing the bulk of the manufacturing of their branded goods and were concerned about human rights abuses in supply chains. For example:

- **Nike** said in its 10-K filing, "Failure of our contractors or our licensees' contractors to comply with our code of conduct, local laws, and other standards could harm our business." It noted that it imposes minimum labor and environmental standards on its licensees and contractors and requires contractors making its goods to comply with applicable standards for product safety. However, it warned, "from time to time contractors may not comply with such standards or applicable local law or our licensees may not require their contractors to comply with such standards or applicable local law." Further, "Significant or continuing noncompliance with such standards and laws by one or more contractors could harm our reputation or result in a product recall and, as a result, could have an adverse effect on our sales and financial condition."
- Likewise, **Abercrombie & Fitch** pointed out in its 10-K filing, "While we utilize third-party compliance auditors to visit and monitor the operations of our manufacturers, we do not have control of the independent manufacturers or their labor practices." As a result, it said, "the risk remains that one or more of our manufacturers will not adhere to our global compliance standards and violate labor laws or other laws, including consumer and product safety laws." In addition, non-governmental organizations as a result, it said, "might attempt to create an unfavorable impression of our sourcing practices or the practices of some of our vendors or manufacturers that could harm our image." It added, "If either of these events occur, we could lose customer goodwill and favorable brand recognition."

Product formulations: Nearly half of the firms in the Consumer Durables sector discussed product formulations both as risks and opportunities in disclosures, mostly in sustainability reporting, but a few also discussed product lifecycle assessments. For example:

- **Whirlpool** in its annual report highlighted how it was addressing the world's environmental issues by developing "innovative products that minimize impact on the environment while making our consumers' lives easier," including "high-performance appliances" that "consume less energy and water." Globally, it noted, Whirlpool was "embedding a life-cycle approach to appliance design…that assesses the environmental impacts of every stage of a product's production, use and disposal." For example, it noted, its "Brastemp brand Viva! appliances represent a new product family based on Design for Environment ideas," including resource efficiency improvements built into the brand's product and manufacturing processes along with improved recyclability of materials at the end of a product's useful life.

- **VF** featured in its annual report offerings of its North Face brand, including its Venture Jacket, "which replaces non-renewable, petroleum-based material with castor oil" and received recognition from *Treehugger, Backpacker* and *Apparel* magazines.
- **Nike** said in its sustainability report that it continued "to successfully innovate across our entire value chain," and prognosticated that "sustainability will be an engine for growth." For example, it said, it "created jerseys for the 2010 World Cup that were made from recycled plastic bottles," and it had "built tools such as the Nike Materials Sustainability Index (Nike MSI) to make it easy for designers to create products with lower environmental impacts." It added, "Through other initiatives, we hope to go much further, helping our supply chain become leaner, greener, more equitable and empowered. One example is employing fundamentally different processes to make products, like Nike Flyknit's innovative manufacturing process, which reduces waste in knitting together the upper of the shoe." It also described how it is "exploring new materials and manufacturing processes" through its Sustainable Business & Innovation Lab," which are "reviewed by management for alignment with our strategic and financial goals," including "potential environmental and social impacts; possible revenue; savings and risk reductions; our ability to bring the innovation to scale; and other factors." In 2011, it said it also "launched an executive-level Committee for Sustainable Innovation," chaired by its CEO and tasked with overseeing its innovation pipeline and portfolio.
- **Hasbro** also said in its sustainability report that it was adopting a product life cycle approach to improve the sustainability of its consumer products, taking into "consideration all stages of the product life cycle from acquisition of raw materials through manufacture and distribution to end of product life," as well as consumer demand. It said it was in the midst of gathering information from experts and exploring strategic collaborations across industries "in an effort to develop a formal process on life cycle management" that could "bring to light opportunities to reduce energy, greenhouse gas and other air emissions, water use, use of chemicals of concern, and waste generation." In the meantime, it was actively pursuing its priority to increase recycled content in the paper and cardboard used in Hasbro packaging and products. "To this end, we are creating a benchmark of recycled content material and identifying sources that practice sustainable forest management," it noted. Its goal for 2011 was to derive at least 75 percent of its paper and board packaging from recycled material or sources that practice sustainable forest management and to increase that percentage to 90 by 2015.

Ethics: Almost a third noted ethical lapses as significant risks to their financial wellbeing, and these disclosures were almost all made in 10-K filings. For example:

- **Lennar** noted in its 10-K that it makes best efforts, through policies, training, procedures and whistleblower mechanisms, to ensure employees deal fairly with its customers, subcontractors, suppliers, competitors and associates and to make its associates, officers and directors comply with all applicable laws, rules and regulations. But, it said, "there are instances in which subcontractors or others through which we do business engage in practices that do not comply with applicable regulations and guidelines." For example, it illustrated, "there have been instances in which some of our associates were aware of these practices and did not take adequate steps to prevent them," with materially adverse consequences for the company.
- In step with a common theme among the S&P 500, **Whirlpool** in its 10-K noted that it is subject to compliance with the Foreign Corrupt Practices Act, which it said "may place us at a competi-

tive disadvantage to foreign companies that are not subject to similar regulations. Additionally, any determination that we have violated the Foreign Corrupt Practices Act could have a material adverse effect on us."

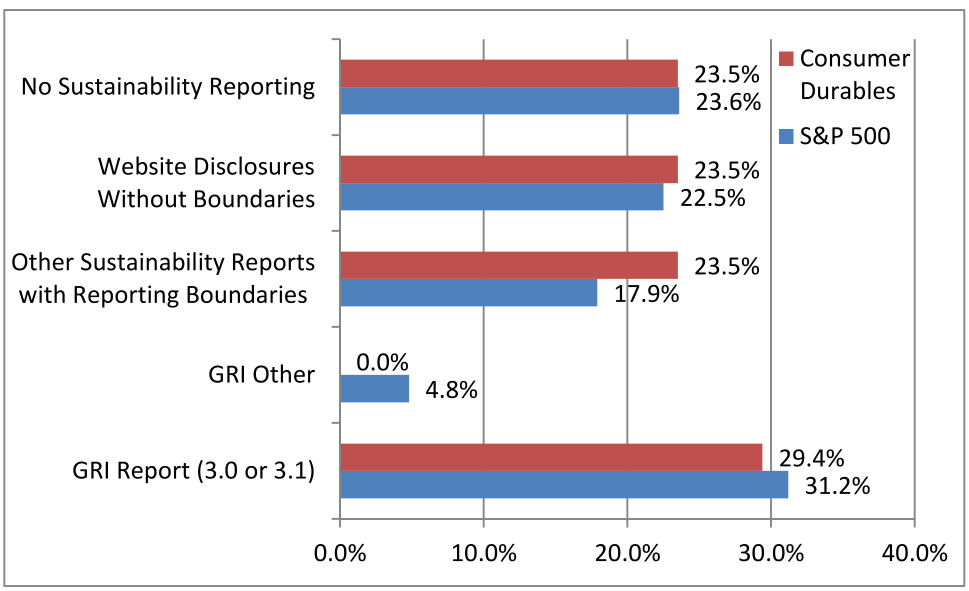
Conflict minerals: One firm in the industry warned of conflict minerals risks:

- In its 10-K filing, **Harman International Industries** said that the "Dodd-Frank Wall Street Reform and Consumer Protection Act included disclosure requirements regarding the use of conflict minerals mined from the Democratic Republic of Congo and adjoining countries (DRC) and procedures regarding a manufacturer's efforts to prevent the sourcing of such conflict minerals." It noted, "While final rules are not yet implemented, these rules could limit the number of suppliers who can provide us DRC conflict-free components and parts, and we may not be able to obtain DRC conflict free products or supplies in sufficient quantities or at competitive prices for our operations." It added, "We may also face challenges with our customers and suppliers if we are unable to sufficiently verify that the metals used in our products are conflict free." As a result, it warned, "we may not be able to obtain the materials necessary to manufacture our products, which could force us to cease production or search for alternative supply sources, possibly at a higher cost. Such disruptions may have a material adverse effect on our business, financial condition, results of operations and cash flows."

Water use: A handful of firms had disclosures on water use and two pointed to small savings in the area. For example:

- **Mattel** in its sustainability report noted it installed a rain water collection tank, saving 20,000 cubic meters of water per year, and replaced faucets with more efficient models, saving almost $2,500 per year.
- **Harley Davidson** in its sustainability report redesigned a manufacturing process at its Pilgrim Road facility, which led conserving water use, as well as producing wastewater, and saved the company $10,000 annually on its water bill.

Sustainability reporting: As noted earlier, Consumer Durables firms beat the S&P 500 in rates of companies issuing sustainability reports by a hairline of a margin—76.5 percent compared with the S&P 500 average of 76.4 percent. The sector was, however, slightly less inclined to use the GRI standards (29.4 percent compared with 36 percent for the S&P 500).



Financials in sustainability reports: Of those engaging in sustainability reporting, 38.5 percent of Consumer Durables firms also included consolidated or full financials with their sustainability reports. Another 23.1 percent placed general economic overviews of the company alongside sustainability information, while 38.4 percent of the subset offered none. The segment matched the S&P 500 average of 61.6 percent including financials with sustainability reporting.

Board diversity: The sector ranked fourth least likely to have board diversity policies including gender and/or racial criteria in factors for nominating directors, with just 17.6 percent doing so. One example:

- **Whirlpool** said in its proxy statement, "The Corporate Governance and Nominating Committee has determined that it is desirable for the Board to have a variety of differences in viewpoints, professional experiences, educational background, skills, race, gender, age, and national origin, and considers issues of diversity and background in its selection process."

Pay links: Consumer Durables firms tied for dead last in having links between environmental factors and executive pay, with none doing so, and third to last for social links, with a rate of 5.9 percent compared with the S&P 500 average of 27.2 percent. However, on links to ethical criteria, the industry beat the S&P 500, 17.6 percent to 10.7 percent.

Points: The sector averaged 15.9 points using Si2's system for broadly measuring integrated reporting, slightly below the S&P 500 average of 17.5. **Ford Motor**, profiled below, was the top earner of points in the sector with 43.

Sector Profile: Ford Motor

Ford Motor is the second largest U.S. automaker and owns the Ford and Lincoln brands, as well as a stake in Mazda; its finance unit, Ford Motor Credit, is one of the biggest auto finance companies in the United States. Inventor of the modern-day assembly line and the only one of the Detroit "big three" not to enter bankruptcy protection or receive bailout money during the financial crisis, Ford Motor has taken an independent and bootstrapping course in turning around its operations and financial performance—dubbed the ONE Ford Plan. Increasingly, Ford Motor is talking about innovation in the space of sustainability, from the development of new fuel efficient cars to innovative engine technologies, and its environmental, social and governance disclosures focused there. It self-declared its sustainability report to be compliant with GRI 3.0 at an A+ reporting level, and Ford Motor says the report, although "not formally an integrated report, "combines financial and sustainability reporting" and describes its "financial health and its interrelationships with our sustainability performance."

Climate change: Motor vehicle economy is a central concern for Ford from a risk and opportunity perspective, and it has tremendous implications for climate change, as well as Ford's product lineup. Ford says in its 10-K filing that "there are ever-increasing demands from regulators, public interest groups, and consumers for improvements in motor vehicle fuel economy, for a variety of reasons including energy security and reduced GHG emissions." Three principal factors are in play in its ability to meet new fuel economy standards, Ford said:

- Prevailing economic conditions, including fluctuations in fuel prices;
- Alignment of standards with actual consumer demand for vehicles; and
- Adequate lead time to make necessary product changes.

It noted that customers can be fickle, being "more likely to pay for vehicles with fuel-efficient technologies (such as hybrid-electric vehicles) when the economy is robust, and when fuel prices are relatively high." However, when the economy sours or fuel prices are low, "many consumers may put off new vehicle purchases altogether," Ford says, "and among those who do purchase vehicles, demand for higher-cost fuel technologies is not likely to be strong." Regulation throws another wrench into this mix for Ford. For example, it said, " If consumers demand vehicles that are relatively large, high-performance, and/or feature-laden, while regulatory standards require production of vehicles that are smaller and more economical, the mismatch of supply and demand would have an adverse effect on both regulatory compliance and our profitability." At the same time, it said, "if regulatory requirements call for rapid, substantial increases in fleet average fuel economy (or decreases in fleet average GHG emissions), we may not have adequate resources and time to make major product changes across most or all of our vehicle fleet (assuming the necessary technology can be developed)."

Ford Motor emphasized throughout its 10-K, annual report and sustainability report that it was committed to delivering "leadership or among the best fuel efficiency in every major new vehicle launch." A quote also repeated throughout the three documents was that "nearly one-third of Ford's vehicle lines will feature a model with 40 mpg or more in 2012—a claim no other full-line automaker can match." Its emphasis on fuel economy, which dovetails with its climate strategy, is being driven by consumer demand, Ford said. In its sustainability report, it noted that a 2011 survey found 42 percent of consumers said "fuel economy is an extremely important new vehicle purchase consideration, which is up over 13 percent versus a decade ago." At the center of this strategy is Ford's EcoBoost engines, which deliver a 10 to 20 percent improvement in fuel economy over conventional gasoline engines and are being deployed globally in 2013, in addition to its full range of hybrid, all-electric and plug-in electric versions of its popular global vehicles, including the Focus and Fusion.

However, regulation clearly also is a key impetus for moving Ford toward more fuel efficient cars and trucks. In the United States, the regulatory piece plays out for Ford on the federal level, with corporate average fuel economy (CAFE) standards set by the National Highway Traffic Safety Administration (NHTSA) and in some larger states, namely California. In addition, Ford noted, "a 2007 U.S. Supreme Court decision paved the way for EPA to regulate motor vehicle GHG emissions under the Clean Air Act." On the federal level, regulatory agencies, namely the NHTSA and the EPA, have come together to set uniform standards under the "One National Program," establishing "a harmonized national program of CAFE and GHG regulations for light-duty vehicles for the 2012-2016 model years," and California has acceded, saying that companies complying with "One National Program" also will be considered in compliance with California GHG regulations. Nonetheless, Ford Motor says the 2012-2016 federal GHG and fuel economy standards are very challenging, requiring "new light-duty vehicles to ramp up to an industry average fuel economy of approximately 35.5 mpg by the 2016 model year, which amounts to the steepest rate of increase in fuel economy standards since the inception of the CAFE program."

Ford Motor assured investors that it believes that it "will be able to comply with the harmonized federal CAFE/GHG standards for the 2012-2016 model years, as a result of aggressive actions to improve fuel economy that we built into our cycle plan, and through a variety of flexible compliance mechanisms." It acknowledged that this represents a backtracking in its position earlier that compliance would have meant costly product restrictions in some states. Key differences changing its position, it said, were that the standards under One National, "although very stringent, do not ramp up as steeply as the state standards they are replacing" and allowed Ford "to determine compliance based on nationwide sales rather than state-by-state sales." For the first time, heavy duty trucks also fall under fuel economy rules from the EPA and NHTSA beginning in 2014. Ford Motor said these will "primarily affect our heavy-duty pickup trucks and vans, plus vocational vehicles such as shuttle buses and delivery trucks" and "will be challenging," although it believed that it would be "able to comply."

Outside of the United States, Ford Motor noted that Canada's regulatory bodies have been mimicking U.S. CAFE standards. Ford Motor also dedicated substantial discussion to standards in the European Union (EU) that apply across the common market, in addition to individual country rules. In December 2008, Ford Motor noted that the EU "approved regulation of passenger car CO2 emissions beginning in 2012 which limits the industry fleet average to a maximum of 130 g/km, using a sliding scale based on vehicle weight" and providing "different targets for each manufacturer based on its respective average vehicle weight for its fleet of vehicles" with limited credits for CO2 off-cycle actions or so-called "eco-innovations," as well as "certain alternative fuels, and vehicles with CO2 emissions below 50 g/km." A penalty system will apply for manufacturers failing to meet targets.

Ford Motor also noted that other non-EU European countries are likely to follow with similar regulations, including Switzerland. The EU Commission, Council and Parliament are also contemplating similar regulations for commercial light-duty vehicles, Ford said, with an industry average of 175 g/km (with phase-in from 2014-2017) and 147 g/km in 2020 with similar penalties and exemptions. In addition, some European countries "have implemented or are considering other initiatives for reducing CO2 vehicle emissions, including fiscal measures and CO2 labeling" independent of the EU regulations. Ford Motor also discussed regulations in China, Japan, India, South Korea and Taiwan, as well as Brazil. Combined, Ford said, all of these regulations pose risks, including "higher costs, cash expenditures, and/or sales restrictions."

Ford Motor also is looking within on the climate change issue and focusing on energy efficiency with regard to its manufacturing operations. In its sustainability report, it noted that its manufacturing facilities worldwide reduced overall energy use by more than 40 percent and decreased carbon dioxide emissions by 48 percent. "These more efficient facilities have saved us money and helped us further strengthen our balance sheet," it noted.

Product formulations: Central to Ford's product development strategy is its Design for Environment (DfE) tool, it noted in its sustainability report, which bridges "the gap between product development and environmental management." Ford said DfE "uses simplified lifecycle assessments and cost calculations, substance restrictions, checklists and other tools to identify and reduce significant impacts." An example of this tool in action, detailed across Ford's reporting, was its EcoBoost engines, described earlier, as well as its full range of hybrid, all-electric and plug-in electric vehicles. However, its sustainable product innovations did not end with fuel economy. Ford Motor also noted that it is increasing the amount of renewable and recycled materials in its vehicles. For example, it said in its sustainability report, "all of our vehicles manufactured in North America have soy foam seat cushions and backs, a technology pioneered by Ford," and "the Focus Electric features seat fabric partly made of recycled plastic bottles and post-consumer waste." Also, Ford said it is "researching how to incorporate natural fibers, from hemp to coconut, to reinforce plastic parts," as well as "the potential uses of a special kind of dandelion as a potential resource for rubber."

Product safety was a big concern for Ford Motor, too, and this came across in identified risk factors surrounding safety regulations, as well as product features. On regulation, the National Traffic and Motor Vehicle Safety Act of 1966 and supplemental regulations are the centerpiece concern for companies selling vehicles in the United States, and Ford Motor said in its 10-K filing, "Meeting or exceeding many safety standards is costly, in part because the standards tend to conflict with the need to reduce vehicle weight in order to meet emissions and fuel economy standards," as well as the fact that remedies under the law focus on recall campaigns. Similar risks exist for Ford in other jurisdictions, including the EU, where "regulators also are focusing on active safety features such as lane departure warning systems, electronic stability control, and automatic brake assist." Litigation attached to safety issues, Ford Motor highlighted, also is a significant risk to its business.

Environmental management: Ford noted across its disclosures that it has an environmental management system and sets environmental targets annually for all of its facilities. In 2010, Ford completed the full global implementation of an Environmental Operating System (EOS), "a standardized, streamlined approach to maintaining compliance with all legal, third-party and Ford internal requirements, including government regulations, ISO 14001 and Ford's own environmental policies and business plan objectives and targets." The streamlined system, Ford said, saved it money, as it reduced compliance tasks and associated reporting companywide. For example, it noted, "the average plant has to comply with approximately 90 corporate requirements, 100 to 400 national regulations and 200 plant-specific requirements," and "the EOS consolidates all of these requirements into easy-to-follow tracking and reporting systems organized by recurring tasks, nonrecurring tasks and critical tasks."

Hazardous waste: Ford disclosed that it expected to spend about $160 million from 2012 through 2012 on facilities in the Americas and Europe "to comply with stationary source air and water pollution and hazardous waste control standards that are now in effect or are scheduled to come into effect during this period." Its EOS, it noted, is aimed at minimizing these costs. In addition, Ford Motor disclosed in its 10-K filing that "it received notices under various federal and state environmental laws that we (along with others) are or may be a potentially responsible party for the costs associated with remediating numerous hazardous substance storage, recycling, or disposal sites in many states and, in some instances, for natural resource damages," and that it may have been "a generator of hazardous substances at a number of other sites." The actions with monetary sanctions in excess of $100,000 relate to the demolition of an assembly plant with contaminated concrete in Edison, New Jersey, and the improper disposal of the concrete, for which Ford Motor has already paid $460,000.

Water use: In its sustainability report, Ford Motor acknowledged that "water availability, quality and access are critical global issues that extend well beyond environmental concerns," including agriculture, biodiversity, industry and community development. For its own operations, Ford noted, "many vehicle manufacturing processes require water, and water is used at every point in our supply chain." Due to the risks of scarcity and the costs associated with growing demand for a limited resource, Ford Motor said it has prioritized minimizing water use as a sustainability goal. It said it has taken a global strategic evaluation and has prioritized "facility water reductions based on local needs," operations in "water-stressed areas," as well as lifecycle demands for water for its products. As with energy use, Ford Motor has been aggressive with cutting water use, which it did by 60 percent between 2000 and 2010, with appreciable benefits to its costs and balance sheet, it noted. It also announced a new plan in 2011 to cut the amount of water used to make each vehicle 30 percent globally by 2015, using the amount of water used per vehicle in 2009 as the baseline.

Employment: As a major employer, labor issues were paramount in Ford Motor's disclosures and highlighted as risks, as well as opportunities. In its 10-K filing, for example, Ford noted that labor placed a major risk on its ability to maintain competitive cost structure. It explained that substantially all of its hourly employees in its automotive operations in the United States and Canada were represented by unions and covered by collective bargaining agreements. While it had "negotiated transformational agreements in recent years" with its major labor groups, "the agreements provide guaranteed wage and benefit levels throughout the contract term and some degree of employment security, subject to certain conditions," and, as a result, the agreements "may restrict our ability to close plants and divest businesses," Ford noted. The accords with major labor unions also included "substantial pension and postretirement health care and life insurance liabilities," which Ford admitted might impair its "liquidity or financial condition."

At the same time, Ford acknowledged in its sustainability report, "our employees are the driving force behind our success." It noted, "Our recent financial recovery can be attributed in large part to the dedication and strong performance of our workforce, which pulled together as one team during difficult times." It added, "Positive relationships with employees and business partners help us to improve efficiencies, cost and quality, and allow us to develop and to innovate." It described its profit sharing incentives, part of its labor accords, in its 10-K, annual report and sustainability report; they were designed to align the company's financial goals with the need to attract and retain talent, as well as benefits, flexible working arrangements and other programs designed to attract employees. It also talked about its diversity initiatives in its sustainability report, noting that "diversity in our workforce is a valuable asset." And it noted its employee engagement efforts, including its Pulse survey, aimed at gaining insights into employees' "overall satisfaction with the Company, their jobs, diversity and other aspects of workplace satisfaction."

It also highlighted its health and safety policies, procedures and practices, which it said were "important considerations in the business decisions we make." It began a safety campaign in 1999, it noted, and saw "dramatic results, with overall injury rates dropping to a tenth of their previous levels." Ford said it was building on its success and expanding into employee wellness programs, which it said was with "growing recognition of the impact that health issues like heart disease, diabetes and obesity can have on the well-being of our employees, as well as the cost of providing health care…"

Ethics: Ford Motor also disclosed in its 10-K filing that it is the target of several class action suits related to alleged ethical lapses:

- Class actions on behalf of all purchasers of new motor vehicles in the United States since January 1, 2001, have been filed in several state and federal courts against numerous defendants, including Ford, alleging that "vehicle manufacturers, aided by dealer associations, conspired to prevent the sale to U.S. citizens of vehicles produced for the Canadian market and sold by dealers in Canada at lower prices than vehicles sold in the United States." The federal claims were dismissed but might be appealed, and several state actions remain.
- A class action filed with the Ohio state court system, Ford also disclosed, alleges that the company breached its sales and service agreement with its truck dealers by "failing to publish to all Ford dealers all price concessions that were approved for any dealer." The class was certified, consisting of all Ford dealers who purchased from Ford any 600-series or higher truck from 1987 to 1997, and granted plaintiffs' motion for summary judgment on liability. In February 2011, the jury awarded $4.5 million in damages to the named plaintiff dealer, and the trial court applied the jury's findings with regard to the named plaintiff to all dealers in the class in June, entering a judgment of approximately $2 billion in damages (comprised of about $800 million in damages, and $1.2 billion in pre-judgment interest). The trial court also denied Ford's motion to decertify the class, but Ford has appealed.
- Along with two other multinational companies, Ford Motor is "a defendant in purported class action lawsuits seeking unspecified damages on behalf of South African citizens who suffered violence and oppression under South Africa's apartheid regime." The lawsuits, filed in 2002 and 2003, "allege that the defendant companies aided and abetted the apartheid regime and its human rights violations." The cases are under appeal.

- “Two Brazilian states have levied tax assessments against Ford Brazil, claiming that certain state tax incentives from the state of Bahia did not receive formal approval from the organization of Brazilian state treasury offices,” Ford said. It has appealed the assessment.

It also warned in its 10-K filing that its “internal control over financial reporting and our operating internal controls may not prevent or detect misstatements or loss of assets because of inherent limitations, including the possibility of human error, the circumvention or overriding of controls, or fraud.”

Pay links: Ford’s proxy statement did not include links between executive pay and sustainability criteria, but its sustainability report provided details on how it aligns its sustainability goals with pay throughout its management.

Board diversity: Ford said in its proxy statement that it “recognizes the value of diversity and we endeavor to have a diverse Board, with experience in business, government, education and technology, and in areas that are relevant to the Company’s global activities,” but it did not touch upon racial or gender factors.

• Restaurants, Hotels and Consumer Services

In addition to restaurants and hotels, Consumer Services includes cruise operators and spans a host of diversified services for the consumer market, including online and casino gambling, online travel websites, educational providers and tax preparation services. Using Si2's composite assessment for reporting, the sector earned an average of 12.3 points, below the S&P 500 average of 17.5, and it exceeded S&P 500 levels of reporting in only a few areas—water use and employment and to a lesser extent, hazardous waste and environmental management. Other active issue areas within the sector included climate change and product formulations. *(See table below.)*

Consumer Services had no truly integrated reporters, and it ranked fourth from the bottom for sustainability reporting. It also was less likely than average among sectors to have board diversity statements, although it beat averages for the S&P 500 for executive pay links to sustainability criteria. On discussions of liabilities and contingencies, its average for the environment (16.7 percent) was less than the S&P 500 average of 38 percent, but the industry was more likely to report other sustainability-related liabilities (50 percent) compared with the S&P 500 (41.9 percent).

Consumer Services	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	0.0%	0.0%				
Conflict Minerals	0.0%	0.0%				
Government Payments	0.0%	0.0%				
Climate Change	38.9%	5.6%	33.3%	11.1%	38.9%	27.8%
Environmental Management	27.8%	5.6%	27.8%	16.7%	27.8%	27.8%
Water Use	22.2%	11.1%	11.1%	11.1%	27.8%	27.8%
Hazardous Waste	33.3%	5.6%	27.8%	11.1%	11.1%	5.6%
Waste Management	16.7%	5.6%	5.6%	5.6%	27.8%	27.8%
Product Formulations	22.2%	11.1%	16.7%	11.1%	27.8%	27.8%
Employment	50.0%	11.1%	50.0%	27.8%	44.4%	44.4%
Human Rights	5.6%	0.0%	0.0%	0.0%	11.1%	5.6%
Ethics	22.2%	0.0%	16.7%	0.0%	11.1%	11.1%

Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.

Areas where this industry group posted the highest percentage among all industries are highlighted in red.

Source: Sustainable Investments Institute (Si2), Washington, DC

Employment: Half the companies in the sector had disclosures on employment, mostly reporting risks in 10-K statements and annual reports. However, talk of opportunities in the employment arena increased in sustainability reports to more than 40 percent. On risks, for example:

- **Darden Restaurants** said in its 10-K filing that it was subject to numerous public policy risks, several of which were related to employment matters: health care reform, minimum wage, unionization and immigration requirements. It noted that "an insufficient or ineffective response to government regulation may impact our cost structure, operational efficiencies and talent availability." It added, "We also are subject to federal and state laws which prohibit discrimination and other laws regulating the design and operation of facilities, such as the ADA," and "Compliance with these laws and regulations can be costly and increase our exposure to litigation and governmental proceedings, and a failure or perceived failure to comply with these laws could result in negative publicity that could harm our reputation."

It also noted that "new or changing laws and regulations relating to union organizing rights and activities may impact our operations at the restaurant level and increase our cost of labor." None of Darden's employees are unionized at present, and almost all, except for corporate and restaurant management, are hourly employees, many on a part-time basis.

In addition, it said it was reviewing the Health Care Reform Law to "evaluate the potential impacts of this new law on our business, and accommodate various parts of the law as they take effect." However, it warned, "There are no assurances that a combination of cost management and price increases can accommodate all of the costs associated with compliance." Darden highlighted that the health care reform law "also requires restaurant companies…to disclose calorie information on their menus." While it does not expect "to incur any material costs from compliance with this provision," Darden added, it "cannot anticipate any changes in guest behavior resulting from the implementation of this portion of the law, which could have an adverse effect on our sales or results of operations."

On wages, it noted, "As federal and state minimum wage rates increase, we may need to increase not only the wages of our minimum wage employees but also the wages paid to employees at wage rates that are above minimum wage." Other risks it lists are labor shortages, inability to pass on labor and other related costs to consumers through increased prices, and affordable premiums for its workers' compensation, general liability, property, health and directors' and officers' liability insurance.

On retention, Darden noted that its operations managers on average have 16 years tenure, and its restaurant managers have averaged 13 years with the company. It says it believes that it offers "working conditions and compensation that compare favorably with those of our competitors" and that its employee relations are "good." In January 2012, it noted, it was "recognized for the second consecutive year by FORTUNE magazine as one of the *100 Best Companies to Work For in America*." It is the largest employer on the list in 2011 and the only full-service restaurant company to ever appear on the list. It said that diversity is a key part of its employee recruitment and retention strategy; noted about 43 percent of its employees are minorities and 52 percent are women; and highlighted that it scored 90 out of 100 on the Human Rights Campaign Corporate Equality Index in 2011—a measure of lesbian, gay, bisexual and transgender workplace rights provisions—the highest score among the nine restaurant companies rated in the report.

- **McDonald's** focused on similar risks in its 10-K, noting that "the increasing costs and other effects of compliance with U.S. and overseas regulations affecting our workforce and labor practices, including regulations relating to wage and hour practices, immigration, healthcare, retirement and other employee benefits and unlawful workplace discrimination" were key risks. It also labeled as a risk its "ability to recruit and retain qualified local personnel to manage our operations and growth, particularly in certain developing markets."

Other companies focused on benefits programs and the returns they reaped from those investments, especially in sustainability reporting. For example:

- **Wyndham Worldwide** in its sustainability report reviewed the success it had with flexible working arrangements. It said the program has enabled its Wyndham Vacation Ownership division to reduce its carbon footprint and expenses, including $248,000 in auto expense savings, a 2 percent decrease in absenteeism, improved productivity, and more than $460,000 office leasing savings. Wyndham noted that it sought feedback from its employees on these and other workplace programs and issues through its annual survey, which demonstrated a 76 percent favorable engagement rating across all Wyndham Worldwide business units in 2011.

Water use: Consumer Services firms were exposed to many different types of water risks, including high costs, regulations and scarcity. Most firms discussing water (about a quarter overall) also talked about strategies to reduce use. For example:

- **Darden Restaurants** in its 10-K discussed a wide range of resource issues including water. It acknowledged that its "business fundamentally relies on natural resources: from the energy we use to light, cool and heat our restaurants, to the water we use to cook and clean." Therefore, it said, it "set ambitious targets" in these areas to "drive performance" and control costs. On water, it said it was committed to reduce water use per restaurant by 15 percent by 2015. (It set the same target for energy and a zero waste to landfill goal too.)
- Meanwhile, **Wynn Resorts** noted in its 10-K that it owned approximately 834 acre-feet of permitted and certificated water rights, which it used to irrigate a golf course, and it owned another, approximately 151.5 acre-feet of permitted and certificated water rights for commercial use. It said, "There are significant cost savings and conservation benefits associated with using water supplied pursuant to our water rights. We anticipate using our water rights to support future development of the golf course land." It also noted the risks to water in the dessert area in and around Las Vegas where its principal properties operate.
- **Carnival** in its sustainability report said that water consumption was "an important issue" for the cruise line, as it operates in regions where "water sources are highly restrictive" and its water use could affect its relations with stakeholders. It noted that both purchasing water and producing it from seawater had associated high costs, so efficient water use aboard its fleet of ships was critical, and it had outfitted ships to be as efficient as possible while still accommodating guests comfortably. Worldwide, it said, it produced about 70 percent of the fresh water used onboard its ships, with the remaining 30 percent supplied from municipal port operations, particularly in areas with plentiful freshwater resources.

Hazardous waste: While not as acute of an issue as for Energy, Materials and Manufacturing firms, still plenty of Consumer Services firms (about a third) spoke about risks related to hazardous waste. For example:

- **Starwood Hotels & Resorts** said in its 10-K that environmental laws and regulations held it "liable for the costs of removing or cleaning up hazardous or toxic substances at, on, under, or in our currently or formerly owned or operated properties." It noted, "Such laws often impose liability without regard to whether the owner or operator knew of, or was responsible for, the presence of such hazardous or toxic substances," and it warned that the presence of hazardous or toxic substances may adversely affect its ability to sell or rent property it holds or to borrow against it. Starwood also noted that its operations generate, store and dispose of hazardous materials and waste and has "from time to time…incurred, and in the future may incur, costs related to cleaning up contamination resulting from historic uses of certain of our current or former properties or our treatment, storage or disposal of wastes at facilities owned by others."

  It said some of its properties exposed it to risks related to occupational exposure to and abatement of asbestos-containing materials, including certain types of spray-on insulation, floor coverings, ceiling coverings, tiles, decorative treatments and piping, as well as polychlorinated biphenyls often found in electrical equipment. In addition, it notes, several of its properties have underground storage tanks and equipment containing chlorofluorocarbons, the operation and subsequent removal or upgrading of could lead to remedial and other regulatory-related actions and associated costs. Beyond regulatory compliance costs, it said these hazardous materials also exposed it to personal injury lawsuits.

- Similarly, **Chipotle Mexican Grill** in its 10-K summarized its exposure to "federal, state and local environmental laws and regulations concerning the discharge, storage, handling, release and disposal of hazardous or toxic substances, as well as local ordinances restricting the types of packaging we can use in our restaurants." It told shareholders that it had "not conducted a comprehensive environmental review" of its properties, but it had "conducted investigations of some of our properties and identified contamination caused by third-party operations." While it is trying to hold the third party accountable for cleanup, remediation and related costs, it noted it could be held liable for these costs, and "any such liability could be material."

Climate change: Nearly 40 percent of Consumer Services firms cited risks related to climate change with about a third also discussing opportunities related to these challenges. For example:

- **Carnival** warned in its 10-K that extreme weather events related to climate change, including "hurricanes and floods," may not only "cause disruption, alteration, or cancellation of cruises but may also adversely impact commercial airline flights, other transport and shore excursion activities or prevent our guests from electing to cruise altogether." It noted, "Such extreme weather events may also disrupt the supply of provisions, fuel and shore power, and may limit our ability to safely embark and disembark our guests" and "could result in increased wave and wind activity, which would make it more challenging to sail and dock our ships," as well as "cause sea/motion sickness among guests and crew." In addition to the safety concerns surrounding such events and the adverse impact on its sales and profitability, it noted that such events "could cause property damage to our ships, port facilities and other assets and impact our ability to obtain insurance coverage for operations in such areas at reasonable rates."
- Meanwhile, **McDonald's** focused on regulatory risks in its 10-K filing. It said, "Increased focus by U.S. and overseas governmental authorities on environmental matters is likely to lead to new governmental initiatives, particularly in the area of climate change." While it couldn't "predict the precise nature of these initiatives," it expected "that they may impact our business both directly and indirectly." The "adoption of new regulations may increase costs, including for the Company, its franchisees and suppliers" and "could have a direct impact on the operations of our restaurants or the operations of our suppliers in ways which we cannot predict at this time." It highlighted taxes on carbon emissions as a particular concern for costs for its operations. It said it was responding by monitoring and reducing energy use at its operations.
- **Darden Restaurants** also was focusing on energy use, an area that was proving to reduce costs, as well. It noted in its annual report that a wide range of actions to address climate change, including "installing low-flow water nozzles in our kitchens and restrooms, implementing power-up and power-down schedules for equipment, installing more energy-efficient lighting in our kitchens, parking lots and dining rooms, and adhering more closely to dining room temperature standards" could ultimately save it "$25 million to $30 million on an annual basis."
- **Yum! Brands** in its sustainability report described a wide range of green building programs to address climate change in what it dubbed its Energy, Environment and Economics or E3 initiative. "The goal of the initiative is to develop green building solutions that meet the bottom line objectives of people, planet, and profits," it said, and "looks at all aspects of our building and site and endeavors to test technologies and approaches in experimental buildings." Examples of its efforts were a prototype KFC-Taco Bell restaurant in Northampton, Massachusetts, which re-

ceived LEED Gold certification in 2009. A particularly striking takeaway from this pilot, it said, was the energy it could save by better harnessing the heated or cooled air typically being expelled from its buildings through kitchen hoods. The company is now testing a new hood for rollout companywide that reduces energy used for exhaust ventilation by more than 70 percent.

Another area was LED lighting. The Northampton LEED property used 60 percent less energy than other typical Yum restaurants and had fewer maintenance costs related to changing bulbs, and the company was conducting a cost-benefit analysis of a switch for other properties. Another prototype, a KFC in the town of Wisbech, United Kingdom, built in 2010 achieved a Grade B rating under the leading green building rating system in the UK, BREAM (Building Research Establishment Assessment Method). Based on successes there, Yum was looking into expanding its use of solar hot water heaters and relying more on daylight than artificial light.

Regulation also was prompting design reviews. Yum noted that Section 312 of the Energy and Information Security Act (EISA) of 2007, which went into effect at the beginning of 2010, "Provides prescriptive design requirements for new walk-in refrigerators and freezers," and Yum was investigating the potential benefits of modifying existing refrigerators and freezers to conform to the standard. Across the company's properties, Yum is evaluating different energy management systems to see which give the best environmental and cost results, and it already has made the jump, where feasible, from incandescent to compact fluorescent bulbs, eliminating 3,200 metric tons of CO_2 per year. It also installed lower wattage lights in parking lots, which saved another 3,400 metric tons of CO_2 per year.

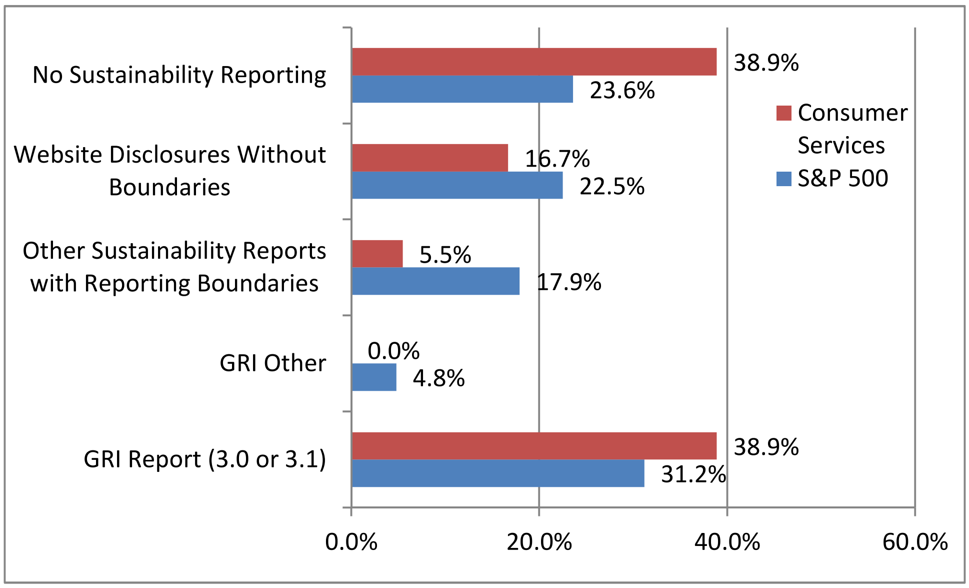
Product formulations: As consumer facing companies, many in the sector had picked up on trends among consumers for preferences for green, sustainable or fair trade products. About a quarter of the firms discussed such innovations, mostly in sustainability reports. For example:

- **Starbucks** in its sustainability report described its Coffee and Farmer Equity (C.A.F.E.) Practices, which it said include "responsible purchasing practices, farmer loans and forest conservation programs" aimed at fostering "a better future for farmers and a more stable climate for the planet," as well as creating "a long-term supply of the high-quality beans" for its operations. The program, developed in collaboration with Conservation International nearly a decade ago, has had profound "environmental and economic impacts for more than one million workers employed by participating farms" and has raised the bar for the entire coffee industry by expanding innovative practices beyond farms sourcing from Starbucks. By 2015, Starbucks wants to source all of its coffee ethically, meaning verified or certified, either through C.A.F.E. Practices, Fair Trade or another program. It said, "Purchasing third-party certified or verified coffees not only meets our customers' needs, but also helps protect the environment and the livelihood of farmers in coffee-growing regions." Central to the ethical sourcing programs is a green coffee pricing model that aims to pay the prices premium quality commands, while fostering price stability and mutually beneficial relationships with suppliers.
- **Starwood Hotels & Resorts** in its 10-K filing and sustainability report described the successful 2006 launch of its entirely "green" brand called Element by Westin—a chain of hotels built around sustainable design and the growing appetite among consumers for sustainable hotel stays. All Element properties are LEED certified, have Energy Star rated appliances, and use as many recycled and green materials as possible in design and construction. For example, Starwood noted, floors feature carpets with up to 100 percent recycled content and recycled carpet cushions; art on the walls is mounted on a base made from recycled tires; and low VOC (volatile organic compounds) paints are used throughout to improve indoor air quality for guests and

staff. The properties also focus on using silverware and glassware and eliminating waste, using dispenser systems for bathroom soaps and other amenities instead of multiple mini-bottles, and offering recycling in rooms and throughout the property.

Ethics: About a fifth of the Consumer Services firms had statements on ethics, most warning investors of the risks of ethical lapses, but some also extolling the virtues of robust ethics programs. For example, **Yum! Brands** said in its sustainability report that its "success is built on the integrity and high ethical standards of our associates," and its "ethics and compliance program…demands the highest ethical standards in all of our operations around the globe."

Sustainability reporting: The Consumer Services sector was less likely overall to engage in sustainability reporting than the S&P 500 (61.1 percent compared with 76.4 percent for the broader index). However, it beat the S&P 500 on the frequency of companies using the GRI standard. *(See chart.)*



Financials in sustainability reporting: Of those issuing a sustainability report or dedicated portion of a website, 27.3 percent also included full or consolidated financials, and another 45.5 percent included general economic information on the company. Only 27.2 percent offered no financials, and the sector was the fifth most likely to include financials with sustainability reporting.

Board diversity: The industry was less likely to include gender and/or racial factors in selecting director nominees (22.2 percent) compared with the S&P 500 (37.2 percent).

Pay links: Consumer Services firms beat the S&P 500 average for executive pay links to environmental criteria (16.7 versus 13.3 percent) and social metrics (33.3 versus 27.2 percent), but fell short on ethical criteria (none versus 10.7 percent). One firm hitting two of the three areas was **Carnival**. Several of its named executive officers had annual bonuses tied to "management of health, environment, safety and security matters."

Points: As noted, average points for the Consumer Services sector using Si2's method were below the S&P 500 (12.3 compared with 17.5 percent). At the top of the sector was Marriott International with 45 points. (It is profiled below.)

Sector Profile: Marriott International

Marriott International is among the world's largest hoteliers, with more than 3,700 operated and franchised properties in more than 70 countries worldwide. Its offerings run the gamut from its flagship J.W. Marriott and Ritz-Carlton luxury chains to its middle tier Marriott Hotels & Resorts and Renaissance Hotels, and its select-service and extended-stay brands Courtyard and Fairfield Inn. The Marriott family still owns about 30 percent of Marriott International. Marriott grapples with many of the same sustainability issues as property management companies in the Real Estate sector due to the nature of its business, as well as those inherent in the travel and tourism industry, as well as restaurants. As a result, green building issues, including energy and water use, as well as waste management, in addition to employment and human rights issues related to human trafficking, figured prominently in its disclosures. In addition, its sustainability report was issued using GRI 3.1 and had a verified C reporting level.

Climate change: Marriott dedicated large portion of it 10-K filings and sustainability report to building initiatives, including "green" hotel developments. It noted that it was the first in the hospitality industry to launch a series of green hotel prototypes that have been pre-approved by U.S. Green Building Council's Leadership in Energy and Environment Design (LEED). This "volume program" enabled any of its developments to achieve LEED certification following preset plans that reduced energy and water consumption by 25 percent.

Marriott also spoke about increasing market demand for carbon accounting and reduction programs. "The U.S. Travel Association confirms that travelers place the importance of supporting environmentally responsible travel service suppliers as a necessity," it noted in its 10-K filing, "even in an economic downturn." It said many of its customers are tracking their Scope Three carbon emissions from travel and consider sustainability performance when selecting hotels. Many customers had complained that calculating the carbon footprint of a stay and being able to easily compare properties on sustainability performance was difficult. Marriott, as described in brief in its 10-K and in more detail in its sustainability report, launched a program with InterContinental Hotels Group and Wyndham Worldwide in 2010 to develop an industry standard. It began with a study from the Cornell University Center for Hospitality Research to review the methodology involved with carbon accounting, and in May 2011 Marriott joined several other global hotel companies to launch the Hotel Carbon Measurement Initiative (HCMI), "a project coordinated by the International Tourism Partnership (ITP) and the World Travel & Tourism Council (WTTC)…to collaboratively develop, test and refine an industry-wide methodology for calculating the carbon footprint of room nights, meetings and events for customers." HCMI worked on drafting and testing the standard in 2011 with help from sustainability consultant Greenview, the World Resources Institute and KPMG, and the group finalized and published a standard in June 2012 with the backing of 21 hospitality companies.

Marriott also discussed its Energy and Environmental Action Plans (EEAP), "a comprehensive, best practice audit tool" aimed at reducing energy and water consumption it rolled out in the United States in 2011 and worldwide in 2012. "The EEAP covers a range of items from corporate re-use policies to simple best practice behaviors for lighting; appliance; heating, ventilation and air conditioning (HVAC); and central plant conservation and efficiency," it said, and "EEAP links the calculations to each audit point to assist the properties with assigning an energy unit and dollar value to each behavior change or project." In 2001, its engineering teams loaded more than 3,200 energy and environmental action items worth 505 million kWh, 4 million therms and 281 million gallons of water reductions into the database. (Marriott cautioned that not all of the potential projects submitted would be achieved due to cost.)

Marriott also has been working with energy providers to address demand during peak periods, such as heat waves. For example, it noted it was the first lodging company to join Constellation Energy's Project Vulcan, "a five-year initiative that integrates energy load curtailment during peak demand periods with automated energy management systems enabling hotels to track electricity usage." The program works by having hotels lower lighting in common areas, use less air conditioning in hallways or unoccupied rooms, or rearrange cooling cycles during peak energy demand periods, and Marriott is working to expand the program across the United States. In 2011, 264 of its properties participated, up from 141 in 2010, and posted annual savings of $141,000 or 1.3 million kWh; $292,000 or 268,231 therms; and $1.2 million overall in avoiding peak rates.

Marriott also has a Retro-Commissioning (MRCx) program, "a comprehensive evaluation and planning process that helps properties become as energy efficient as possible" and to maximize the value of "utility study incentives." It anticipated saving 12 million kilowatts of power through projects completed over the last few years and those currently underway. In general, properties implementing an MRCx assessment said their energy costs decrease 5 to 25 percent and achieve payback on their investments in fewer than two years. Marriott also discussed lighting retrofits throughout its properties to switch to LED lighting and compact florescent bulbs, as well as purchases of Energy Star appliances and Energy Star and EPEAT electronics to save energy. (EPEAT is an environmental rating that helps identify greener computers and other electronic equipment incorporating ratings for energy use, hazardous materials and recyclability.) The electronics initiatives were particularly important for its data center, where it said it had increased processing capacity by 87 percent and data storage by 94 percent while keeping its power use flat.

Environmental management: Marriott has an integrated global environmental strategy (components of which are described above) that "improves energy efficiency, conserves water, builds more sustainable hotels and supports high-level projects that reduce greenhouse gas emissions." It also has programs to address hazardous materials and non-hazardous waste (described below).

Hazardous materials: In its 10-K, Marriott noted that its properties "are subject to national, state and local laws and regulations that govern the discharge of materials into the environment or otherwise relate to protecting the environment," including requirements that address health and safety; the use, management and disposal of hazardous substances and wastes; and emission or discharge of wastes or other materials." It said it believed that its properties "comply, in all material respects, with environmental laws and regulations," and compliance "also has not had a material impact on our capital expenditures, earnings or competitive position, nor do we anticipate that such compliance will have a material impact in the future."

Part of its waste initiatives, including non-hazardous waste, involved working with its supply chain to increase purchases of "green" furniture, fixtures and equipment. In addition to EPEAT-certified computer purchases described earlier, Marriott noted it was the founding member, and the first lodging brand member, of the Hospitality Sustainable Purchasing Consortium, "an industry leadership group comprised of brands, suppliers, architecture firms, sustainability experts and purchasing firms, which has developed a sustainability performance scorecard, the HSP Index, for furniture, fixtures and equipment."

Waste management: Marriott disclosed in its sustainability report that it decreased pounds of landfill waste per occupied room by 10 percent in the Americas from 2009 to 2011, with a 4.7 percent reduction from 2010 to 2011. It noted that it was working "collaboratively with our waste and recycling partners to reduce the tonnage that must be transported to landfills," including conducting "third-party waste audits and waste characterization analyses to better understand our waste streams." As a result, Marriott-managed properties in the Americas diverted more than 12,000 tons of waste from the landfill, through recycling and food waste composting, which also generated cost savings.

Additionally, since 2006 Marriott has partnered with asset disposal companies to divert nearly 500,000 kilograms of eWaste, including more than 60,000 computers, servers, printers, network equipment and associated components, from landfills. It also is recycling soaps and bottled amenities through Clean the World and other groups, which donate the products to local homeless shelters. It also took corrective action in 2011 to change some of the tissue in several of its properties that contained fiber linked to unsustainable rainforest timber and revised its standard to reference "more robust recycled content for facial and bath tissue," working closely with Kimberly-Clark Professional, its supplier.

Water use: In its sustainability report, Marriott said it reduced its water consumption per occupied room by 11.6 percent from 2007 to 2011. In addition, the improvements to its data center, described earlier, including "a new closed loop chiller system using glycol, and a five-to-seven degree increase in data center temperature, have saved 793,200 gallons of water, a 58 percent reduction in water usage since 2009." It also launched a partnership with **Nalco**, a water treatment and process improvement company, "to deliver 450 million gallons in water savings over a three-year period from 2010 to 2012," leveraging Nalco's monitoring equipment and innovative water treatment chemistry. It also worked with **Ecolab** in 2011 to improve dishwashing systems and supplies at properties in the United States, helping to reduce energy and water use and waste by improving operational efficiency.

Product formulations: In response to customer demand, Marriott said it offers online access to a comprehensive list of environmental practices for each hotel in its portfolio, including more than 75 indicators covering policy, energy management, waste, supply chain certifications, and carbon footprints. It also noted in its sustainability report its efforts to source sustainable seafood working with FutureFish, Cleanfish, Marine Stewardship Council and FishWatch.

Employment: In its 10-K, Marriott said under risk factors, "If we cannot attract and retain talented associates, our business could suffer." It explained, "We compete with other companies both within and outside of our industry for talented personnel. If we cannot recruit, train, develop, and retain sufficient numbers of talented associates, we could experience increased associate turnover, decreased guest satisfaction, low morale, inefficiency, or internal control failures. Insufficient numbers of talented associates could also limit our ability to grow and expand our businesses."

Its sustainability report detailed numerous initiatives aimed at employee recruitment and retention, including benefits, engagement programs and surveys to assess employee job satisfaction, as well as partnerships with colleges and universities for talent development. It also noted implementation of wellness programs to decrease employee absenteeism, increase productivity and cut healthcare costs. Diversity, it said, also was critical. It said it "realized long ago that a diverse and inclusive work environment strengthens our company's culture, enables us to open doors to a world of opportunity and provides a competitive advantage." It noted its associates "hail from dozens of nations and speak more than 50 languages; 63 percent are ethnic minorities and women represent 55 percent of associates and 57 percent of managers." It described its non-discrimination policies, diversity councils and recruitment initiatives to promote diversity. It noted it was named to the inaugural list of the World's Best Multinational Workplaces by the Great Place to Work Institute.

Human rights: Marriott noted in its sustainability repot the risks to reputation surrounding human rights controversies. It reviewed its human right policy and noted its commitment to use its "sphere of influence" to fight "against such tragedies as human trafficking and the exploitation of children." These programs include employee training and reporting mechanisms.

Ethics: In its 10-K, Marriott warned, "compliance with laws that affect the activities of companies abroad including U.S. and other jurisdictions' anti-corruption laws, currency regulations and laws affecting dealings with certain nations" held risks for its operations. Its sustainability report said, "Upholding high ethical standards is critical to our competitive advantage, maintaining strong relationships with our shareholders, owners and guests, and attracting and retaining talented associates."

Pay links: Marriott's proxy statement said that part of its annual bonus incentive plan for executive officers included associate engagement metrics culled from the results of its annual employee survey, which is conducted and audited by a third party. As the company exceeded its goals for associate participation and job satisfaction, executives received maximum payouts in this area.

Board diversity: Marriott's proxy statement did not include a board diversity statement referencing gender and/or racial factors in selecting director nominees.

- ## Media

Media saw below average levels of reporting across many metrics, including Si2's overall assessment (10.7 compared with 17.5 for the S&P 500), sustainability reporting (61.1 compared with 76.4 percent for the S&P 500 and the third lowest percentage), and links between executive pay and sustainability criteria, although it bested the S&P 500 on board diversity statements referencing gender and racial factors. The sector included no truly integrated reporters and also had below average disclosure rates across all issue areas with a few caveats—product, employment and ethics information on risk in 10-K filings and annual reports, as well as opportunities related to employment in the same documents. The employment focus was not surprising given the industry's need to attract and retain highly creative and talented employees. Other issue highlights within the industry included environmental management, hazardous waste and climate change. *(See box below.)* It was the fifth least likely industry to report environmental contingencies and liabilities (13.3 compared with 38 percent for the S&P 500), although it ranked fifth in other sustainability-related liabilities (53.3 compared with 41.9 percent for the S&P 500).

Media	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	0.0%	0.0%				
Conflict Minerals	0.0%	0.0%				
Government Payments	0.0%	0.0%				
Climate Change	20.0%	6.7%	20.0%	13.3%	26.7%	26.7%
Environmental Management	40.0%	6.7%	33.3%	6.7%	6.7%	6.7%
Water Use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Hazardous Waste	26.7%	0.0%	26.7%	0.0%	0.0%	0.0%
Waste Management	13.3%	6.7%	6.7%	6.7%	13.3%	13.3%
Product Formulations	33.3%	6.7%	33.3%	6.7%	40.0%	40.0%
Employment	53.3%	20.0%	60.0%	26.7%	40.0%	40.0%
Human Rights	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ethics	26.7%	0.0%	33.3%	0.0%	6.7%	6.7%
	Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.					
	Areas where this industry group posted the highest percentage among all industries are highlighted in red.					
Source: Sustainable Investments Institute (Si2), Washington, DC						

Employment: The top disclosure area overall for the Media sector and one of the few areas the industry beat S&P 500 averages for reporting, three-fifths of the Media firms said something about labor, with most focusing on risks related to potential labor disputes and unionization issues. However, 40 percent discussed opportunities with most writing about these facets of employment in sustainability reporting platforms. On risks, for example:

- **News Corp.** said in its 10-K filing that "labor disputes may have an adverse effect on the company's business." It explained that News Corp. and its partners "engage the services of writers, directors, actors and other talent, trade employees and others who are subject to collective bargaining agreements, including employees of the Company's film and television studio operations and newspapers." It noted, "If the Company or its partners are unable to renew expiring collective bargaining agreements, it is possible that the affected unions could take action in the form of strikes or work stoppages." Further, "such actions, as well as higher costs in connection with these collective bargaining agreements or a significant labor dispute, could have an adverse effect on the Company's business by causing delays in production or by reducing profit margins."

- Similarly, **Walt Disney** warned in its 10-K filing, "Labor disputes may disrupt our operations and adversely affect the profitability of any of our businesses." It explained, "A significant number of employees in…our businesses are covered by collective bargaining agreements, including employees of our theme parks and resorts as well as writers, directors, actors, production personnel and others employed in our media networks and studio operations." In addition, it noted, "the employees of licensees who manufacture and retailers who sell our consumer products, and employees of providers of programming content (such as sports leagues) may be covered by labor agreements with their employers." In general, it summed up, "a labor dispute involving our employees or the employees of our licensees or retailers who sell our consumer products or providers of programming content may disrupt our operations and reduce our revenues, and resolution of disputes may increase our costs."

  It also said, "Sustained increases in costs of pension and postretirement medical and other employee health and welfare benefits may reduce our profitability." It noted, "With approximately 156,000 employees, our profitability is substantially affected by costs of pension benefits and current and postretirement medical benefits," and it added, "we may experience significant increases in these costs as a result of macro-economic factors, which are beyond our control, including increases in the cost of health care."

Disclosures for the most part differed strikingly in sustainability reports, with most companies emphasizing the positive. For example:

- **Omnicom Group** in its sustainability report said, "Our people are the very best at what they do," and "we work exceptionally hard to attract and retain them." Diversity was a key aspect of Omnicom's recruitment and retention program, as it noted it believed a diverse workforce reflecting global communities where it operates as a leading to "extraordinary creativity and superior service." It reviewed its employee education and development programs, something that it said was "an essential differentiator between us and our competitors." It said that the programs not only boosted morale but also lowered turnover.
- Likewise, **Time Warner** said in its sustainability report, "Throughout our company's history, attracting and developing the world's best talent from a broad range of people, backgrounds and perspectives has been fundamental to our ability to succeed in the marketplace." It added, "Whether it is by attracting creative talent to our studio and networks or by fostering a diversity of viewpoints among our journalists who cover the news from around the world, our collective success is based on our employees' unique contributions to our company." It too highlighted benefits, including career development programs, as part of its strategy.

Product formulations: More than a third of the Media firms discussed sustainability-related product innovations, and many talked about leveraging their platforms to reach audiences and educate them about various sustainability issues, as well as elevate the debates surrounding them. For example:

- **Viacom** said in its 10-K filing that it is "committed to acting responsibly and proactively in the global community," including leveraging "the power of our brands and the strength of our audience relationships to drive action on the issues that are most important to our partners, employees, audiences, shareholders and communities alike." It gave examples from throughout its channel offerings to illustrate this point, including programming on education, health and wellness, the environment and citizenship: BET's Emmy Award-winning Rap-It-Up, a sustained, comprehensive initiative to inform, educate and empower African American men and women about HIV/AIDS; Comedy Central's Address the Mess, raising awareness surrounding environmental issues; MTV's A Thin Line, addressing the growing threat of sexting, cyber-bullying and digital dating abuse; Nickelodeon's Worldwide Day of Play, empowering kids to engage in active, healthy and fun play and calling attention to the need for kids and families to make healthy choices; SPIKE's Hire a Veteran, providing tools to help veterans transition to the civilian work-force and saluting companies that provide opportunities to veterans; and VH1's Save the Music Foundation, restoring instrumental music education programs in America's public schools.

Others focused on developing more sustainable equipment, such as set-top boxes. For example:

- **DirectTV** said in its sustainability report that it "leads the Industry in energy-efficient product design," and it is "fully committed to designing its products to be as energy-efficient as possible." It highlighted its partnership with the EPA's Energy Star program, and it noted that 95 percent of its set-top box receivers have qualified under the program, making them 45 percent more energy efficient than earlier models. Combined, it said, the new boxes saved more than 900 million kilowatt-hours of electricity per year.

Ethics: Discussed by about a third of the sector and another of the few areas where Media firms exceeded averages of the S&P 500 for disclosures, many Media companies noted lawsuits and related risks in this area, but a few also highlighted the importance of effective ethics programs. The implications for net neutrality rules and regulations of Media firms also were common. For example:

- **Time Warner Cable** in its 10-K filing reviewed legislative proposals and regulations on net neutrality. In addition to various legislative, regulatory and legal rulings over the years, Time Warner highlighted the FCC's Open Internet Order adopted in December 2010 and which became effective in November 2011. The new rules, Time Warner Cable summarized, are based on "three basic principles: transparency, no blocking and no unreasonable discrimination, and are applicable to fixed and wireless broadband Internet access providers to different extents." The new rules are under appeal by a lawsuit being waged by Time Warner Cable and other communications companies. Time Warner Cable continued to warn that the new rules could impinge on its "ability to operate its high-speed data business profitably and to manage its broadband facilities efficiently."
- Meanwhile, **News Corp.** focused its discussion in its annual report on its *News of the World* publication in the United Kingdom and the controversy surrounding the publication's use of phone hacking to drum up leads. The company characterized the scandal as a "major black eye," and it said that the "behavior carried out by some employees of *News of the World* is unacceptable and does not represent who we are as a Company." The company discussed its decision to shut down *News of the World* as a result of the controversy and its efforts to ensure a similar incident never happened again involving one of its outlets. It assured shareholders that it would "put things right." The Company incurred $224 million in legal and professional fees related to *The News of the World* investigations and litigation and costs for related civil settlements for the fiscal year ended June 30, 2012, which were included in selling, general and administrative expenses in the company's consolidated statements of operations.

Environmental management: With 40 percent of Media firms discussing risks in this area, it was a highpoint for disclosure among them, although many simply focused on broad regulatory implications for their operations and the use of environmental management systems in 10-Ks. For example:

- **DirectTV** reviewed in its 10-K filing that it was subject to "requirements of federal, state, local and foreign environmental laws and regulations," including "laws regulating air emissions, water discharge, employee safety, and universal and hazardous waste management activities." It said it had developed an environmental management function designed "to track, facilitate and support our compliance with these requirements…" It said it was "aware of contamination at one of our former sites" and was in "in the process of complying with the requirements stipulated by the government agency overseeing the site cleanup and have allocated the funds to achieve the decontamination goals." It did not expect, however, "capital or other expenditures for environmental compliance to be material in 2012." It said it also periodically reviewed "environmental stewardship concepts (such as green initiatives and energy conservation strategies)" and implemented "these whenever feasible."

- Likewise, **McGraw-Hill** said in its sustainability report that it too had an environmental management system with key elements addressing facilities, implementing architectural design and engineering standards, and achieving ISO 14001 environmental certifications for facilities. It highlighted that its "Global Real Estate (GRE) Services division is responsible for our worldwide real estate and construction activities, including the purchase and sale of land and buildings and the planning, construction, leasing, subleasing and renovation of our owned and leased facilities," and that "GRE continues to assess its portfolio and implement programs to reduce energy and water use, decrease waste and increase recycling worldwide." In addition, it said, it continued "to maintain green buildings in our portfolio and meeting international green construction standards in new projects." In 2011, it said its offices Maidenhead and Wooburn Green in the United Kingdom achieved ISO 14001 Environmental Certification, which it planned to duplicate in other locations.

Hazardous waste: Information in this area from Media firms paralleled environmental management discussions in 10-K filings and was included by about a quarter of the firms. For example:

- **Comcast** said in its 10-K that it was "responsible for the cleanup of environmental contamination at some of NBC Universal's current and former facilities and at off-site waste disposal locations, although our share of the cost of such cleanups to date has not been material."
- Meanwhile, **Gannett** said in its 10-K that its "publishing operations use inks, photographic chemicals, solvents and fuels," and "the use, management and disposal of these substances are sometimes regulated by environmental agencies." It noted that it retained "a corporate environmental consultant who, along with internal and outside counsel, oversees regulatory compliance and preventive measures." Some of its subsidiaries had been included among the potentially responsible parties in connection with sites that have been identified as possibly requiring environmental remediation, although it did not believe any of them to be material to its financial results.

Climate change: About a fifth of Media firms addressed climate change in securities filings, annual reports or sustainability reporting. Most focused on risks and energy efficiency initiatives. For example:

- **Omnicom Group** in its 10-K said it "could be affected by future laws or regulations enacted in response to climate change concerns and other actions," including cap and trade laws and other requirements to reduce emissions, although it expected these effects to be mostly indirect. It noted that it could "be affected indirectly by increased prices for goods or services provided to us by companies that are directly affected by these laws and regulations and pass their increased costs through to their customers."
- Likewise, **Comcast** said in its 10-K that climate change regulation, "such as proposed greenhouse gas emissions limits or cap and trade programs, could result in an increase in the cost of electric-

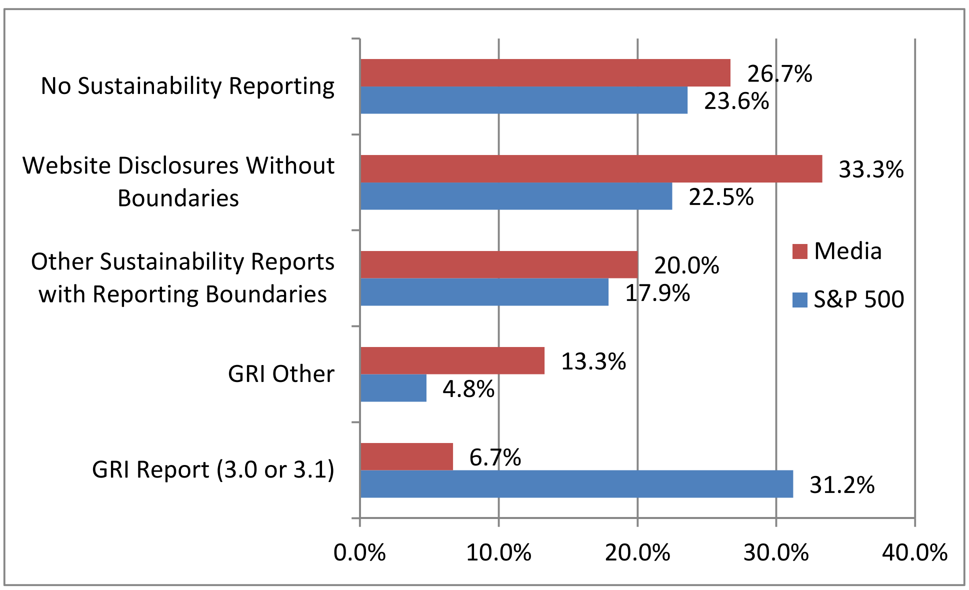
ity, which is a significant component of our operational costs at some locations." However, it added, it was "unable to accurately predict how these requirements might be changed in the future and how any such changes might affect our businesses."

- **Gannett** focused on energy efficiency in its 10-K, noting savings from its climate programs. For example, it said it invested in seven large green HVAC equipment project upgrades in 2011 with total expenditures, after rebates, of $892,000. It expected its investments to yield annual cost savings of $766,000 and to achieve an energy reduction of 6.9 million kilowatt hours (KWH) of electricity every year. Its investments, therefore, would be repaid in less than two years and continue to generate savings going forward. Based on this success, it said, it also "identified new projects that will reduce power consumption by another 4 million kilowatt hours in 2012."

Waste management: A few of the companies discussed waste management and recycling initiatives with associated cost savings. For example, **Interpublic Group** in its sustainability report discussed its "go paperless" campaign to distribute company information online, whenever possible, as well as to reduce duplicate magazine and newspaper subscriptions, to use reusable cups in its facilities, to recycle and to use recycled content in stationary, business cards and other printed materials.

Sustainability reporting: As noted earlier, Media firms underperformed the S&P 500 in sustainability reporting by 3.1 percentage points and were the third least likely to engage in this type of reporting. They also lagged in adopting GRI as a standard. *(See bar chart.)*

Financials in sustainability reports: For the relatively small numbers of sustainability reporters in the sector, financial reporting in sustainability materials also was infrequent. None included consolidated or few financials in sustainability reporting and only 9.1 percent offered general economic overviews, and the sector was the least likely to include financials with sustainability reporting.



Board diversity: The sector, however, was more likely than others to include gender and/or racial factors in nominating directors. For example, **Time Warner Cable** said in its proxy statement that the Nominating and Governance Committee believed it to be "desirable for new candidates for the Board to enhance the gender, ethnic, and/or geographic diversity of the Board."

Pay links: No Media firms linked executive pay to environmental or ethical criteria, placing the industry at the bottom of the heap on averages in those two categories. While 20 percent opted for social criteria, the rate for the industry still lagged the S&P 500 average of 27.2 percent.

Points: With an average of 10.7 points using Si2's scoring system, the sector came in sixth to last. CBS was the top scorer for Media firms with 24 points, and it is profiled below.

Sector Profile: CBS

CBS among the world's largest media conglomerates with holdings in television, radio, online content and publishing. CBS Broadcasting, its biggest division, operates the CBS television network, which was at the top of U.S. viewership in 2012, along with a group of local television stations. CBS also owns cable network Showtime and produces and distributes programming through CBS Television Studios and CBS Television Distribution. Other operations include CBS Radio, CBS Interactive, and book publisher Simon & Schuster. In addition, CBS Outdoor is one of the largest U.S. operators of billboards and outdoor advertising media. CBS Chairman Sumner Redstone controls CBS through his National Amusements holding company. CBS wasn't an integrated reporter or a GRI user, but it was the most prolific reporter of sustainability risks and opportunities in the sector, mostly focusing on climate change and other environmental factors, employment and ethics.

Climate change: CBS published a "Green Report," which stated that it understood "the synergy between operating in an environmentally responsible manner and its positive impact on our operations, our employees and the communities we serve all around the world." It detailed several climate-related initiatives focused on energy efficiency, including:

- "Motion sensors and other automated programs are turning off lights, air conditioning and other equipment when not in use.
- "New, highly-efficient printers are replacing old, energy-wasting printers as well as greatly reducing the number of printers needed in a company-wide initiative.
- "Solar panels have been installed on some stages, buildings and production vehicles are generating green, renewable electricity.
- "Highly efficient new A/C technology and practices are reducing our overall power needs.
- "Cool Roof technology and energy efficient green roof practices are significantly cutting building energy consumption.
- "Old transmitters are being replaced by more efficient units creating less heat and using less electricity.
- "Sustainable transportation in the form of more fuel efficient/energy efficient vehicles, such as hybrid cars and hybrid Electronic News Gathering trucks, are replacing older, less green company vehicles."

CBS also said it "is encouraging and supporting our employees to carpool, use public transportation and choose bicycle commuting to help cut our transportation carbon footprint" and continues "to expand our green building practices as the CW added the U.S. Green Building Council's LEED certification to their facility in the past year, as did our KYW/WPSG CBS TV stations in Philadelphia."

Hazardous waste: CBS was engaged in toxic tort litigation regarding asbestos from legacy Westinghouse operations. It disclosed in its 10-K filing that it "is a defendant in lawsuits claiming various personal injuries related to asbestos and other materials, which allegedly occurred principally as a result of exposure caused by various products manufactured by Westinghouse, a predecessor, generally prior to the early 1970s." However, it underscored, "Westinghouse was neither a producer nor a manufacturer of asbestos," although it was "named as one of a large number of defendants in both state and federal cases." It said that "in the majority of asbestos lawsuits, the plaintiffs have not identified which of the Company's products is the basis of a claim," although "claims against the Company in which a product has been identified principally relate to exposures allegedly caused by asbestos-containing insulating material in turbines sold for power-generation, industrial and marine use, or by asbestos-containing grades of decorative micarta, a laminate used in commercial ships." As of December 31, 2011, CBS had pending approximately 50,090 asbestos claims, down from approximately 52,220 as of December 31, 2010, and 62,360 as of December 31, 2009; it received approximately 4,410 new claims and closed or moved to an inactive docket approximately 6,540 claims in 2011. Its total costs for the years 2011 and 2010 for settlement and defense of asbestos claims after insurance recoveries and net of tax benefits were approximately $33 million and $14 million, respectively. While claims were "trending down" and it believed it had adequate reserves and insurance to cover costs, it warned investors its estimates for liabilities could change.

Waste management: CBS said in its sustainability report that its Simon & Schuster division is "rapidly transitioning to digital publishing as readers' preference becomes e-books." It summarized, "The division is now producing significantly fewer physical books, greatly reducing the use of paper and other printing materials while cutting manufacturing, warehousing and shipping-related carbon footprints." Furthermore, it said, "the replacement of publishers' paper and ink-printed product catalogs with all digital versions in 2011" further cut "printing, distribution, and waste-related energy use and emissions..." It noted it also had engaged in extensive recycling of "paper, cardboard, plastics, aluminum, batteries, glass, CDs, DVDs and electronic-waste" at all of its offices, sets, studios and other facilities, "diverting hundreds of tons of materials that were previously disposed of in landfills" and cutting costs.

Water use: "Conserving water is now considered an essential practice at CBS business units both inside our buildings and for outside landscaping," it said. In addition, it was deploying "a wider variety of technology to achieve reductions, including auto sensors in sinks and toilets, switching to dry extraction cleaning processes and more efficient servicing of A/C systems." All efforts were also reducing costs.

Employment: In its 10-K filing, CBS said that the loss of key personnel, including talent, could disrupt its operations and adversely affect its business results. It explained that it "depends upon the continued efforts, abilities and expertise of its chief executive officer and other key employees and entertainment personalities," and it "believes that the unique combination of skills and experience possessed by its executive officers would be difficult to replace, and that the loss of its executive officers could have a material adverse effect on the Company, including the impairment of the Company's ability to execute its business strategy." In addition, it said, "Entertainment personalities are sometimes significantly responsible for the ranking of a television or radio station and, therefore, the ability of the station to sell advertising, and an author's popularity can be significantly responsible for the success of a particular book."

CBS also noted that it and its suppliers "engage the services of writers, directors, actors and other talent, trade employees and others who are subject to collective bargaining agreements." It warned, "If the Company or its suppliers are unable to renew expiring collective bargaining agreements, it is possible that the affected unions or others could take action in the form of strikes or work stoppages." It added, "Such actions, higher costs in connection with these agreements or a significant labor dispute could adversely affect the Company's television, radio, cable networks, interactive and motion picture businesses by disrupting the Company's ability to provide scheduled services and programming or by causing delays in the production of the Company's television or radio programming, motion pictures or the Company's outdoor business by disrupting its ability to place advertising on outdoor faces." Furthermore, "Depending on its duration, any lockout, strike or work stoppage could have an adverse effect on the Company's revenues, cash flows and/or operating income and/or the timing thereof."

It also said that it understands "that a great company is only as strong and effective as the people that work within it." It also thought that diversity was a key contributing factor to its success and believed it was critical for it to attract and retain "a workforce that reflects the community we serve and value."

Ethics: Also in its 10-K, CBS detailed several securities actions being waged by various public pension funds alleging violations of federal securities law surrounding the company's "failure to timely write down the value of certain assets," which "caused the Company's reported operating results…to be materially inflated." The cases were in various stages of litigation.

It also noted that the "vigorous enforcement or enhancement of FCC indecency and other program content rules against broadcast and cable industries could have an adverse effect on the company's business and results of operations." It explained, "The FCC's rules prohibit the broadcast of obscene material at any time and indecent or profane material on television or radio broadcast stations between the hours of 6 a.m. and 10 p.m.," and "broadcasters risk violating the prohibition against broadcasting indecent material because of the vagueness of the FCC's indecency/profanity definition, coupled with the spontaneity of live programming." The fines for broadcasting indecent material, it noted, "are a maximum of $325,000 per utterance," but the FCC could also deny renewal of or revoke a license for repeat offenders, which could place individual CBS programs and stations at risk. It added, "The difficulty in predicting whether individual programs, words or phrases may violate the FCC's indecency rules adds significant uncertainty to the Company's ability to comply with the rules." Furthermore, it said, "Some policymakers support the extension of the indecency rules that are applicable to over-the-air broadcasters to cover cable and satellite programming and/or attempts to increase enforcement of or otherwise expand existing laws and rules." It warned, "If such an extension, attempt to increase enforcement or other expansion took place and were found to be constitutional, some of the Company's cable content could be subject to additional regulation and might not be able to attract the same subscription and viewership levels."

Board diversity: In its proxy statement, CBS noted that its nominating and governance committee "considers diversity, among other factors," which it defined as taking into account "professional experience, gender and ethnicity, among other characteristics." It also noted that it has nominated, and stockholders have elected, a total of four female directors, one of whom is Hispanic, and one African-American director. It also said its board regularly reviews the effectiveness of its consideration of diversity in its director nomination process.

Pay links: CBS disclosed in its proxy statement that executive pay was tied to diversity and talent recruitment and retention metrics.

- **Retail**

Risks varied throughout the Retail sector, largely dependent on the portfolio of the products the company sold and the degree to which the products the company sold also held its names or marks. Retailers reported human rights risks tied to suppliers more frequently than any other sector, and the industry disclosed more frequently as a whole on most categories than the S&P 500. Among retailers, employment, environmental management, climate change and product risks received the most attention. It also was one of the sectors affected more than others by Dodd-Frank reporting requirements, with conflict minerals linked to sales of electronics. *(See chart below.)*

There were no truly integrated reporters among the Retail firms, and they lagged the S&P 500 in sustainability reporting overall—65.8 versus 76.4 percent for the index—as well as for links between executive pay and environmental, social and ethical criteria. Retailers, however, were more likely to have board diversity statements mentioning gender and/or race. The industry was less inclined to report environmental contingencies or liabilities than the S&P 500 (26.3 percent compared with 38 percent for the S&P 500). Retailers, however, reversed the trend for other sustainability-related liabilities (52.6 versus 41.9 percent for the S&P 500).

Retail	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	0.0%	0.0%				
Conflict Minerals	5.3%	0.0%				
Government Payments	0.0%	0.0%				
Climate Change	31.6%	10.5%	31.6%	15.8%	44.7%	44.7%
Environmental Management	50.0%	13.2%	50.0%	23.7%	34.2%	36.8%
Water Use	10.5%	5.3%	13.2%	5.3%	23.7%	23.7%
Hazardous Waste	28.9%	5.3%	28.9%	7.9%	5.3%	5.3%
Waste Management	26.3%	7.9%	26.3%	15.8%	34.2%	34.2%
Product Formulations	31.6%	18.4%	31.6%	23.7%	42.1%	39.5%
Employment	57.9%	34.2%	55.3%	31.6%	44.7%	44.7%
Human Rights	18.4%	2.6%	13.2%	5.3%	26.3%	18.4%
Ethics	28.9%	2.6%	28.9%	5.3%	18.4%	13.2%
	Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.					
	Areas where this industry group posted the highest percentage among all industries are highlighted in red.					
Source: Sustainable Investments Institute (Si2), Washington, DC						

Human rights: Retailers were sensitive to reputational risks related to human rights violations in their supply chains more so than any other sector. Reports of child and forced labor, physical and mental coercion, excessive working hours and other sweatshop-related abuses have buffeted the industry for decades. Far greater numbers of retailers saw risks in these areas than opportunities, perhaps pointing to continued weak consumer demand for fair trade or sweatshop-free branded products and the complexities of wringing productivity gains out of better practices to justify the costs of compliance programs, but a few noted some benefits of superior performance in this area. For example:

- **Gap** said in its 10-K filing that it was "subject to risks associated with global sourcing and manufacturing," as "independent third parties manufacture nearly all of our products for us." These risks included "delays in production and added costs as a result of the time it takes to train our vendors in our methods, products, quality control standards, and environmental, labor, health, and safety standards." Moreover, it said, "Failure of our vendors to adhere to our code of vendor conduct could harm our business." It explained, "From time to time, contractors may not be in compliance with these standards or applicable local laws," and "significant or continuing noncompliance with such standards and laws by one or more contractors could have a negative impact on our reputation and an adverse effect on our results of operations."

Gap went on its sustainability report to detail the great complexity its supply chain involves, as well as how it tries to mitigate human rights violations and the risks associated with them through its supplier code and compliance program. It also noted some of the benefits to be had for good practices in these areas. For a T-shirt, it explained, "the supply chain includes everything from people working at farms where cotton is grown to the cut-and-sew factories where the garments are put together." Moreover, decisions affecting the supply chain, it said, affected decisions in corporate headquarters and operations in its stores. It said it sought "to ensure that the people working at various points along the supply chain are treated with fairness, dignity and respect—an aspiration that is born out of the belief that each life is of equal value, whether the person is sitting behind a sewing machine at a factory that produces clothes for Gap Inc., working at one of our stores, or wearing a pair of our jeans." It said it was confident that its "efforts to improve the lives of people who work on behalf of our company help us to run a more successful business." After all, it said, "People who work a reasonable number of hours in a safe and healthy environment not only have a better quality of life, but they also tend to be more productive and deliver higher quality product than those who work in poor conditions."

It also disclosed that its social and environmental responsibility department "has a full-time staff of approximately 70 people dedicated to these issues, partnering with hundreds of factory owners and managers, NGOs, and industry associations worldwide that are experts in social and environmental issues."

- More risk-focused **JC Penney** said in its 10-K that "all of our suppliers must comply with our supplier legal compliance program and applicable laws, including consumer and product safety laws. Although we diversify our sourcing and production by country, the failure of a supplier to produce and deliver our goods on time, to meet our quality standards and adhere to our product safety requirements or to meet the requirements of our supplier compliance program [which incorporates human rights standards] or applicable laws, or our inability to flow merchandise to our stores or through the Internet channel in the right quantities at the right time could adversely affect our profitability and could result in damage to our reputation."

Climate change: An area addressed by almost half of the retailers, mostly in sustainability reporting, climate change was a challenge being met by energy efficiency efforts internally and energy efficient products with customers. For example:

- **Lowe's Companies** in its 10-K said it continued "to build on a history of environmental leadership by helping consumers reduce their energy and water use and their environmental footprint while saving money through a growing number of product and service solutions." It described its "wide selection of environmentally responsible and energy-efficient products for the home, including Energy STAR appliances, WaterSense labeled toilets, paint with no volatile organic compounds (VOC), indoor and outdoor LED lighting, the GE GeoSpring hybrid water heater, and in certain states, GE electric car charging stations."

  In fact, it noted, its "role in helping consumers with their conservation was recognized by the U.S. Environmental Protection Agency (EPA) with our second consecutive Energy STAR Sustained Excellence Award in Retail (2010-2011), which recognizes our long-standing leadership as a retailer of energy-efficient products, as well as nine consecutive Energy STAR awards (2003-2011), including four Energy STAR Partner of the Year awards for educating consumers about the benefits of energy efficiency."

In addition, Lowe's said, it "also recognizes how efficient operations can help protect the environment and our bottom line" and described a wide range of energy efficiency and renewable energy projects to back its claims. It also noted its efforts to track its carbon footprint and participate in the Carbon Disclosure Project. It reported, for example, that it purchased Renewable Energy Certificates (REC) equal to 3 percent of its energy use, making it the sixth largest retail purchaser of green power in the EPA's Green Power Partnership program. It also said it designed energy-efficient features into new stores and during retrofits of existing stores, including energy efficient lighting, white membrane cool roofs and HVAC units that meet or exceed Energy STAR qualifications.

It also had programs to reduce the carbon footprint of the transportation network delivering products to its stores in cooperation with the EPA's SmartWay Transport Partnership, including "increasing shipping by rail, increasing efficiency of truckload shipments, allowing more products to be shipped on fewer trailers, and continuing to use a higher percentage of SmartWay carriers."

- **Costco Wholesale** was more focused on risks and said in its 10-K that "factors associated with climate change could adversely affect our business." As a user of natural gas, diesel fuel, gasoline and electricity in its distribution and warehouse operations, it said, "increased government regulations to limit carbon dioxide and other greenhouse gas emissions may result in increased compliance costs and legislation or regulation affecting energy inputs could materially affect our profitability." It also noted climate risks related to increased costs and scarcity of supplies of various commodities. It also noted that it was a major seller off gasoline, and climate change regulations could adversely impact demand for fuel. "Climate change may be associated with extreme weather conditions, such as more intense hurricanes, thunderstorms, tornados and snow or ice storms, as well as rising sea levels," which hit said "could increase our costs, and damage resulting from extreme weather may not be fully insured."
- **Staples** in its sustainability report described investments it made in recent years to address climate change through product lines and operations. "Through an analysis conducted for Staples in 2010," it said, "we discovered that more than 90 percent of our overall carbon footprint across our entire supply chain is embedded in the products we sell, with less than 10 percent resulting from our operations (e.g., facility energy use and fleet operations)." At the same time, it said, "we modeled the potential benefits of packaging improvements across our key suppliers" and "found that, together with our suppliers, we could realize significant financial and environmental savings by focusing on improving the packaging for the products we sell and the shipments we make." It concluded, "Those findings, combined with continued evidence of increasing customer demand, led us to make the development of more sustainable products and packaging a central focus of our new sustainability strategy." The result has been a wide range of sustainable product options for customers.

  In addition, it said, it developed an energy management program to cut energy consumption. Since 2008, it said it "has retrofitted lighting in more than 750 stores to upgrade from 32-watt T8 bulbs to 28-watt T8s with new electronic ballasts" and upgraded lights in its distribution centers with more efficient lights and motion sensors. Its program has yielded more than a 13 percent cut in energy use and savings of more than $2 million per year. More recently, it expanded its participation into energy consumption demand response programs, "resulting in the elimination of up to 5 MW of load from the grid during peak hours at a savings of $800,000 in 2010."

- Likewise, **Sherwin-Williams** said in its sustainability report that it retrofitted approximately 1,700 stores in 2009 and 2010, "accounting for annual energy savings of $3.3 million" and a "42 million pound reduction in carbon dioxide emissions."

Environmental management: An area of disclosure for half of the retailers, most focused attention on risks disclosures regarding applicable laws and regulations, as well as pending liabilities, although a handful also discussed environmental management systems. For example:

- **Sherwin-Williams** said in its annual report that federal, state and local environmental laws and regulations, which it expected to become "more stringent" in the years ahead, "not only govern current operations and products, but also impose potential liability on the Company for past operations." The company said it believed it was in compliance with these requirements, and that "capital expenditures, depreciation and other expenses related to ongoing environmental compliance measures were not material" to its "financial condition, liquidity, cash flow or results of operations…" Nonetheless, it acknowledged, it was subject to environmental investigation and remediation activities at some of its currently and formerly owned sites and had been designated a potentially responsible party for the cleanup of hazardous waste at several third-party sites.

  At the end of 2011, 2010 and 2009, it said it "had total current and long-term accruals for environmental-related activities of $132.1 million, $149.6 million and $170.9 million, respectively," although it said uncertainty surrounding remediation of several of its sites and adjacent properties might exceed its accruals. Sherwin Williams was focusing on product chemistry to minimize these risks, as detailed under hazardous waste (and also was related to its product formulations disclosures).

- **Staples** said in its annual report that it saw cost and environmental benefits from its environmental management systems and had "obtained ISO14001 certification in Norway to add to existing certifications across Canada, Australia, the United Kingdom, the Netherlands, France, Denmark, Sweden, Germany and Portugal."

Hazardous waste: Almost a third of the retailers also had information related to hazardous materials, mostly related to product formulations. For example:

- **AutoNation** in its 10-K disclosed that its "operations involve the use, handling, storage, and contracting for recycling and/or disposal of materials such as motor oil and filters, transmission fluids, antifreeze, refrigerants, paints, thinners, batteries, cleaning products, lubricants, degreasing agents, tires, and fuel." It said these activities exposed its operations "to a complex variety of federal, state, and local requirements that regulate the environment and public health and safety." For example, it noted, "Most of our stores utilize aboveground storage tanks, and to a lesser extent underground storage tanks, primarily for petroleum-based products," and "storage tanks are subject to periodic testing, containment, upgrading, and removal under the Resource Conservation and Recovery Act and its state law counterparts." In addition, it said, "Clean-up or other remedial action may be necessary in the event of leaks or other discharges from storage tanks or other sources. In addition, water quality protection programs under the federal Water Pollution Control Act (commonly known as the Clean Water Act), the Safe Drinking Water Act, and comparable state and local programs govern certain discharges from some of our operations."

Similarly, it said, "certain air emissions from operations, such as auto body painting, may be subject to the federal Clean Air Act and related state and local laws." It also acknowledged that several of its stores "are parties to proceedings under the Comprehensive Environmental Response, Compensation, and Liability Act, or CERCLA, typically in connection with materials that were sent to former recycling, treatment, and/or disposal facilities owned and operated by independent businesses."

It assured shareholders that it had "a proactive strategy" related to environmental compliance, including third-party auditing programs. While costs associated with these programs were "substantial," it said it did "not anticipate…that the costs of such compliance will have a material adverse effect on our business, results of operations, cash flows, or financial condition," and it said it does " not have any material known environmental commitments or contingencies."

- **Sherwin-Williams** said in its annual report that it was investing "more than $100 million annually in research, development and commercialization of new product technologies," including products to "improve indoor air quality and create a safer work environment." In 2011, it noted, it was the only paint and coatings company to receive the Presidential Green Chemistry Challenge Award from the EPA for its "design of safer and more sustainable chemicals, processes, and products that protect the public from exposure to harmful chemicals."

Waste management: Reduced packaging and increased recycling and recycled content efforts for packaging were the focus of sustainability initiatives of retailers under the waste management issue area, with more than a third engaged in these efforts. For example:

- **Whole Foods Markets** noted in its 10-K that it "discontinued the use of disposable plastic grocery bags at the checkouts in all stores in 2008 and refunds at least a nickel per reusable bag at the checkout." It also said it was "the first national retailer to provide Forest Stewardship Council (FSC) certified paper bags originating from 100 percent post-consumer recycled fiber." In addition, "nearly all of our stores are involved in a recycling program, and most participate in a composting program where food waste and compostable paper goods are regenerated into compost." Additionally, "in 2007 we introduced fiber packaging in many of our prepared foods departments that is a compostable alternative to traditional petroleum and wood- or tree-based materials" and the company is "working to eliminate the use of Styrofoam in packing materials shipped to our Company and in product packaging in our stores."
- **Wal-Mart** said in its sustainability report that it had "kept 80.9 percent of all waste generated by our U.S. operations out of landfills" in 2011, and its "zero-waste-to-landfill program returned more than $231 million to the business last year through a combination of increased recycling revenue and decreased expenses."
- **Gap** noted in its sustainability report that it had "reduced corrugate cardboard use" and had "moved to new containers at our distribution centers that are more space-efficient, use less corrugate and are made of recyclable material." It anticipated that the program would "reduce cardboard waste by 57,000 tons and save approximately $20 million each year." By changing its shipping practices, it also was able to eliminate 63 million yards of plastic strapping from its waste stream, and it had various initiatives at its headquarters buildings to reduce waste. One at its Old Navy brand eliminated disposable food containers and plastic cutlery and saved its cafeteria $100,000 each year, and its paperless paystub program was saving the company $50,000 per year, while eliminating waste.

Water use: Noted by about a quarter of Retail companies, efforts with respect to water focused on products sold, as well as cost savings at retail outlets, distribution facilities and offices:

- **Lowe's Companies** noted in its 10-K that it was "recognized by the EPA WaterSense program with our third consecutive Retail Partner of the Year award," and added that it had been expanding its sale of WaterSense-certified products in recent years.
- **TJX Companies** said in its sustainability report that, while it was not a significant water user, it still believed "reducing our usage is both consistent with our low-cost operating philosophy and our commitment to environmental sustainability." It noted that many of its stores had installed time-sensor technologies to reduce water use in restrooms, and it was monitoring many of its stores to detect outliers in water consumption to target reduction efforts.
- **Safeway** said in its sustainability report it found "that even simple changes in behavior can have dramatic results" in conserving water, a "precious resource." In 2011, it said, "Water conservation programs in our retail stores saved 70 million gallons of water" and saved the company money at the same time. Many of these savings were derived from employee education campaigns. It also focused on preventing leaks at its facilities early. It said that "all water utility use is fed into a database that monitors consumption patterns," and "a special computer algorithm has been developed that tracks consumption and detects when water usage fluctuates out of normal ranges." Therefore, it said, "If a variation is detected, we investigate the problem to see if it is caused by a leak, and patch it up before it's too late."

Product formulations: About a third of the retailers discussed sustainability-related product developments and increased consumer demands for product innovations. (Some of these also were reviewed earlier under climate change, water use and hazardous materials.) For example:

- **Home Depot** said in its 10-K, "As the world's largest home improvement retailer, we are in a unique position to enable our customers to achieve energy savings through our products and services and to educate our customers about 'green' products and practices." It noted, "Through our Eco Options Program introduced in fiscal 2007, we have created product categories that allow consumers to easily identify environmentally preferred product selections in our stores," and these options include more than 4,000 products that meet specifications for energy efficiency, water conservation, healthy home, clean air and sustainable forestry. In 2011, it also "partnered with the U.S. Green Building Council to establish a list of products sold at our stores that meet LEED for Homes product specifications," which "helps our customers easily identify [more than 2,000] products with potential Leadership in Energy and Environmental Design (LEED) point values and is designed to simplify the complexities of building green."
- **Staples** said in its 10-K that it had "a continued focus on sourcing and selling more sustainable products." It said it was now offering customers "more than 10,000 products with environmentally friendly features in stores and online as well as greener copy and print services and product recycling programs."

Employment: Retailers tend to be large employers, and labor-related risks were common disclosures for the retailers in the S&P 500 with close to 60 percent having them. In addition, nearly half talked about opportunities in these areas. For example:

- **Whole Foods Markets** said in its 10-K that its relations with its entirely non-union workforce were "strong" and noted that it had been listed as one of *Fortune* magazine's 100 Best Companies to Work for in America, ranking 24th overall and 7th among large companies in 2011—one of only 13 companies to make the list every year since its inception. It said it believed "in empowering our team members to make Whole Foods Market not only a great place to shop but a great place to build a career," and had salary and benefits programs to reflect its "philosophy of egalitarianism." It said it believed in transparency and opened its books to its employees.

It also noted it had "a salary cap that limits the total cash compensation paid to any team member [including its cofounder and co-CEO John Mackey who had set his salary at $1 and took no cash bonuses or stock options] in a calendar year to 19 times the average annual wage, including bonuses, of all team members." All of its "full-time and part-time team members are eligible to receive stock options through annual leadership grants or through service-hour grants once they have accumulated 6,000 service hours," it said, and about "95 percent of the equity awards granted under the Company's stock plan since its inception in 1992 have been granted to team members who are not executive officers."

In addition to providing "health care at no cost to full-time team members who work 30 or more hours per week and have worked a minimum of 10,000 service hours," it noted that it also offered "personal wellness dollars in the form of either a health reimbursement arrangement or…a health savings account…based on service hours… up to $1,800 per year to help cover the cost of deductibles and other allowable out-of-pocket health care expenses not covered by insurance." It had a wellness program to decrease healthcare costs among its employees as well as decrease absenteeism and boost productivity.

- **TJX Companies** focused on risks in its 10-K, noting that "many of our associates are in entry level or part-time positions with historically high rates of turnover." It added, "Availability and skill of associates may differ across markets in which we do business and as we enter new markets, and our ability to meet our labor needs while controlling labor costs is subject to external factors such as unemployment levels, prevailing wage rates, minimum wage legislation, changing demographics, health care reform, health and other insurance costs and governmental labor and employment requirements."

  Moreover, it said, "the nature of the workforce in the retail industry also subjects us to the risk of immigration law violations, which risk has increased in recent years, and certain associates in our distribution centers are members of unions and therefore subject us to the risk of labor actions." In addition, it warned, "any failure of third-parties that perform services on our behalf to comply with immigration, employment or other laws could damage our reputation or disrupt our ability to obtain needed labor."

  Also, "in the event of increasing wage rates in a market," it said, "failure to increase our wages competitively could result in a decline in the quality of our workforce, causing our customer service to suffer, while increasing our wages could cause our earnings to decrease." It also noted that "the distinctive nature of our off-price model, we must do significant internal training and development for key associates," and "the market for retail management is highly competitive and, similar to other retailers, we face challenges in securing sufficient management talent."

Ethics: Close to a third of the retailers discussed ethics with most noting risks to reputation:

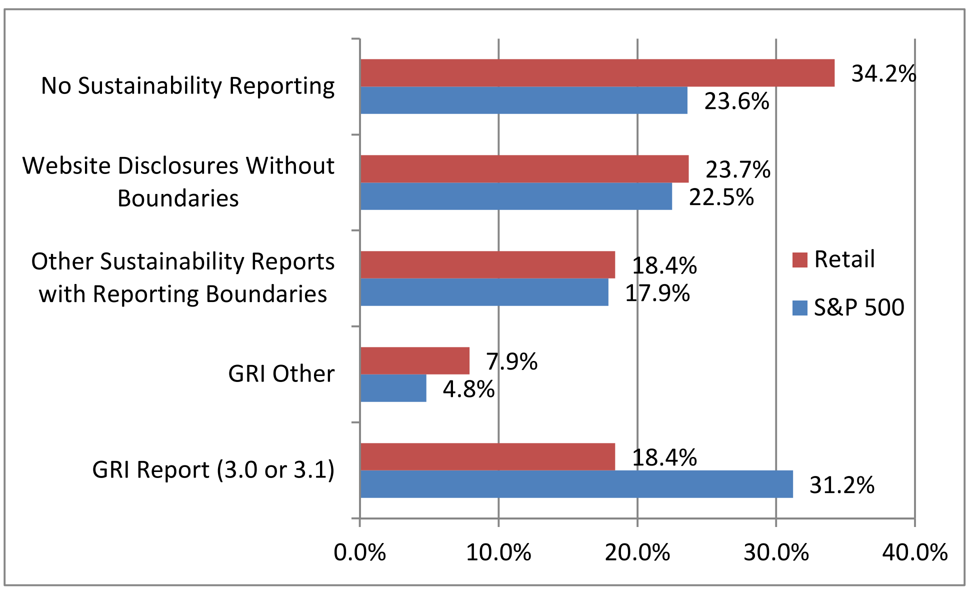
- For example, **Kroger** said in its sustainability report that it held itself "the highest ethical standards because we understand that, as a publicly-owned company and as providers of food for millions of Americans and their families, we have a special obligation to go beyond simple compliance." It added that its employees must "adhere to the highest moral, ethical and legal standards" and "demonstrate in our dealings with customers, suppliers and each other Kroger's core values of honesty, respect, integrity, diversity, inclusion and safety." It concluded, "Only by conducting business in this manner can Kroger continue its success."

Conflict minerals: Best Buy was the sole retailer to reference the Dodd-Frank disclosure requirements for conflict minerals; its discussion is summarized in its profile below.

- In a related matter, **Tiffany & Company** noted in its 10-K filing that "media attention has been drawn to the issue of conflict or blood diamonds," terms used "to refer to diamonds extracted from war-torn geographic regions and sold by rebel forces to fund insurrection." Furthermore, it said, "Allegations have also been made that trading in such diamonds supports terrorist activities." At the same time, it noted, "It is not considered possible to distinguish conflict diamonds from diamonds produced in other regions once they have been polished."

  Therefore, Tiffany partnered with other diamond sellers and nongovernment organizations, such as the Responsible Jewellery Council, to "seek to exclude such diamonds, which represent a small fraction of the world's supply, from legitimate trade through an international system of certification and legislation known as the Kimberley Process Certification Scheme." It underscored that "all rough diamonds the Company buys must be accompanied by a Kimberley Process certificate, and all subsequent trades of rough and polished diamonds must conform to a system of warranties that references the aforesaid scheme." It assured shareholders that the program would not "substantially affect the supply of diamonds." It also noted that concerns "over human rights abuses in Zimbabwe underscore that the aforementioned system does not control diamonds produced in state-sanctioned mines under poor working conditions," but that "Tiffany has informed its vendors that the Company does not intend to purchase Zimbabwean-produced diamonds."

Sustainability reporting: As noted above, retailers were less likely than other S&P 500 firms to engage in sustainability reporting. Altogether, 65.8 percent did, compared with the S&P 500 average of 76.4 percent. Retailers also were slightly less inclined to reference or use the GRI standard—26.2 percent compared with the S&P 500 average of 36 percent. *(See bar chart.)*



Financials in sustainability reporting: Of those with sustainability reporting, only 8 percent coupled these disclosures with full or consolidated financials, with another 40 percent including some form of financial or general economic information; 52 percent had none. Overall, the Retail sector trailed the S&P 500 in this area, of which 61.6 percent of the sustainability reporters included financials in some capacity.

Board diversity: Retailers edged out the S&P 500 for board diversity statements including race and/or gender as factors for director nominations (42.1 percent versus 37.2 percent for the index.) For example:

- **Sysco** said in its proxy statement that its "Corporate Governance Guidelines provide that the Corporate Governance and Nominating Committee is responsible for reviewing with the Board, on an annual basis, the requisite skills and characteristics new Board members should possess as well as the composition of the Board as a whole." It noted, "This review includes consideration of diversity, age, skills, experience, time available and the number of other boards the member sits on in the context of the needs of the Board and the company, and such other criteria as the Committee shall determine to be relevant at the time." In addition, "While the Board has not prescribed standards for considering diversity, as a matter of practice it looks for diversity in nominees such that the individuals can enhance perspective and experience through diversity in race, gender, ethnicity, cultural background, geographic origin, education, and professional and life experience." It also highlighted, "Because we value gender and racial diversity among our Board members, three of our current Board members are women, including one African American, the Chairman of the Board is Hispanic and two of our current Board members are from outside the United States."

Pay links: Retailers ranked below average in the S&P 500 for links to environmental (2.6 versus 13.3 percent), social (10.5 versus 27.2 percent) and ethical (none versus 10.7 percent) criteria.

Points: Retail checked in at an average of 16.4 points using Si2's scoring matrix, just below the S&P 500 average of 17.5. **Best Buy** was first in its industry and sixth overall with 50 points and is profiled below.

Sector Profile: Best Buy

Best Buy is among the world's largest consumer electronics retailers, with three primary sales channels: brick and mortar retail stores, online, and call centers. Its portfolio of store brands includes Best Buy, Best Buy Mobile, The Carphone Warehouse, The Phone House, Five Star, Future Shop, Geek Squad, Magnolia Audio Video, and Pacific Sales, and its retail outlets sell a variety of electronic equipment, movies, music, computers, mobile phones and household appliances. Its stores also offer services, including installation and maintenance, technical support, and subscriptions for mobile phones and Internet services. Best Buy issued a sustainability report using GRI 3.0 and self-declared a B reporting level. Like most retailers, it contended with issues related to labor relations and had several environmental initiatives to address climate change, water use, and waste through operational efficiencies, product design and procurement.

Employment: Best Buy is a large employer, with about 167,000 full-time, part-time and seasonal employees worldwide. It said in its 10-K filing that it considers its labor relations to be "good." It warned, however, that changes to work rules, including National Labor Relations Board rule changes, health care reform and other risk factors could increase its labor expenses. Additionally, it said, "we are facing a new level of complexity from challenges such as minimum wage increases, labor shortages and resource scarcity."

Best Buy said it was addressing these challenges in the workplace by aiming to be "a preferred place to work because of our sustainability efforts, enabling us to attract, retain and develop a talented workforce that can deliver our business and sustainability ambitions." It noted that it offers employees "a wide array of company-paid benefits that vary within our company due to customary local practices and statutory requirements, which we believe are competitive in the aggregate relative to others in our industry." These included learning, development and leadership opportunities.

In addition, it said, "Employees are the conduit between Best Buy and the customers we serve," and "we want them to drive innovation at Best Buy with their ideas, talent and creativity." It said it was working on this connection, and on assessing its employees' opinions about the workplace, through engagement and survey efforts. Best Buy says it measures its success in this area through turnover and retention rates. It notes that its turnover rates have been increasing in the United States from 37 percent in 2010 fiscal year to 50 percent in its 2012 fiscal year, and its retention rates in the United States had declined from 75 percent in 2010 to 63 percent in 2012. Worldwide, its turnover also was increasing, from 36 percent in 2010 to 48 percent in 2012, underscoring the underlying challenges it outlined above.

In its 10-K, Best Buy disclosed that in December 2005, a purported class, Jasmen Holloway, et al., filed a lawsuit against Best Buy in the U.S. District Court for the Northern District of California, alleging that Best Buy discriminated against women and minorities on the basis of gender, race, color and/or national origin in its stores with respect to its employment policies and practices. "The action sought an end to alleged discriminatory policies and practices, an award of back and front pay, punitive damages and injunctive relief, including rightful place relief for all class members," Best Buy said. However, it struck a settlement with the plaintiffs, which was presented to the court for approval in June 2011. "The proposed class action settlement terms included, in exchange for a release and dismissal of the action," Best Buy said, "certain changes to our personnel policies and procedures; payment to the nine named plaintiffs of $0.3 million in the aggregate; and payment in an amount to be determined by the Court, not to exceed $10 million, of a portion of the plaintiffs' attorneys' fees and costs." The court approved the settlement in November 2011.

Climate change: Best Buy said in its 10-K that it "can continue to reduce energy consumption and carbon emissions in cost effective ways that deliver value to our shareholders, customers, employees and the communities we serve, whether it's in our own internal operations or through our work to connect customers with more energy efficient solutions." Nonetheless, it warned, "additional legislation or rulemaking relating to environmental matters, including but not limited to, energy emissions, could have a material adverse impact on our business." Specifically, it said, "environmental legislation or international agreements affecting energy, carbon emissions, water or product materials are continually being explored by governing bodies." It concluded, "increasing energy and fuel costs, supply chain disruptions and other potential risks to our business, as well as any significant rulemaking or passage of any such legislation, could materially increase the cost to transport our goods and materially adversely affect our results of operations."

Best Buy detailed in its sustainability report that its energy efficiency strategy is centered on "end-to-end efforts to reduce energy use in our own internal operations and of the products and services we offer our customers." On operations, it noted in its sustainability report that it has a centralized automated energy management system for its U.S. Best Buy stores, as well as a "High Performance Building Program" guiding its construction of new stores and remodeling of existing outlets. It said, "Where economically viable, during remodels we are installing skylights and dimmable lighting which enables us to reduce our energy consumption," which also had helped Best Buy "reduce our own carbon footprint."

It set a goal in 2010 to reduce its carbon dioxide emissions by 20 percent by calendar 2020, using 2009 as a baseline. During calendar year 2011, it said, "Our retail stores, distribution centers and corporate offices reduced over 59,000 metric tons of carbon dioxide (CO2) emissions, an absolute decrease of 7.5 percent from the previous calendar year."

On the consumer side, it said, it continues "to experience consumer demand for environmentally-friendly products and services, which leads us to focus on providing energy efficient products and a means to recycle old products." It noted that its U.S. Best Buy customers purchased more than 24 million EPA Energy Star qualified products in 2011. Through its Energy Star program, it said, "we helped our customers realize utility bill savings of over $143 million in calendar 2011," which "equates to just over 2 billion pounds of CO2 avoidance, or the equivalent of removing 180,000 cars from the road." It said it was "also investing in a number of technologies and partnerships that increase our product and service offerings to our customers including: home automation; alternative fuel sources and transportation; and partnerships with utility companies in 23 states in the U.S. that will allow for more affordable consumer purchases of energy efficient products." It added that as it expands it selection of "internally developed exclusive brand products, we continue to make efforts to provide products that use less energy, are made of non-toxic materials and are packaged in more responsible ways."

Hazardous waste: Best Buy is working with customers to recycle and dispose of hazardous waste safely through take back programs. Best Buy publicly committed in 2008 to recycle 1 billion pounds of consumer goods (a goal it expects to reach in 2014), and it described in its 10-K filing and sustainability report that it has a nationwide consumer electronics take-back program allows customers to bring many consumer electronics products to its U.S. stores for free recycling. It also noted that it collects "old, inefficient appliances for recycling through a haul-away program." Through these programs, it said, "Best Buy helps to reduce the overall energy impact of our supply chain and minimize the impact of mining for raw material." As noted above, Best Buy also said in its 10-K statement that it is seeking to make the products it sells less toxic. "Continued efforts to be more environmentally conscious in our exclusive brands packaging focused on the use of recycled materials, non-solvent coatings and organic inks where possible," it said. "Through a variety of opportunities," it added, "we reduced plastic usage by 713 tons and eliminated 803 tons of PVC from our exclusive brands packaging during fiscal 2012."

Environmental management: "To help us manage progress toward our 20 by 20 carbon-reduction goal, our billion-pound recycling goal (and create new goals)," Best Buy said in its sustainability report, "we are improving our Environmental Management System (EMS) by aligning it with ISO 14001 qualifications, a globally accepted voluntary standard for management quality." It added, "We believe that investing in this enhanced EMS gives us a structured framework for improving continuously how Best Buy interacts with the environment." Ultimately, it concluded, "we aim to achieve our environmental and business goals, ensure compliance with increasingly complex laws, regulations and requirements and enhance our credibility with stakeholders."

Product formulations: As already outlined above under climate change and hazardous waste, Best Buy has disclosed that it is changing product formulations to make them less toxic, include less packaging and be more energy efficient. This included its Energy Star initiative. In addition to these programs, Best Buy noted in its sustainability report that it offers its business customers access to EPEAT, "a green electronics rating system that combines more than 50 environmental-performance criteria addressing design, production, energy use, product longevity and recycling with ongoing, independent verification of manufacturer claims." It further explained, "Based on a multi-stakeholder public standards development process, EPEAT is the definitive environmental rating scheme for electronic products, with more than 45 participating manufacturers registering more than 2,800 environmentally preferable products across 42 covered countries." In this way, it said, "EPEAT helps purchasers select products that can reduce their environmental footprint," and "nearly 500 million EPEAT-registered products have been purchased since the system began in July 2006." It also said that Best Buy was having a "remarkable" impact on EPEAT use.

Further, as noted above, Best Buy said it is developing several products and services for consumer driven by sustainability demands, including solutions to help customers reduce energy consumption. These home energy management products include: connected thermostats that are programmable and can be operated using a mobile phone; lighting controls and LED bulbs; power strips, cords and outlets that conserve energy when not in use; smart plug load technology that connects to a web interface where you can see your energy consumption (and do something about it); and residential solar solutions with partner Solar City. These products are being sold through "Home Energy Management departments" Best Buy is piloting in stores in Chicago, Houston and San Carlos, Calif., it said. The new departments, it explained, "help customers learn about, try and buy these new technologies, most of which have web, tablet and smartphone user interfaces," which allow customers "to control energy use when they are away from home." Best Buy said in its 10-K and sustainability report that it expected its home energy management "to be a growing product segment."

On product formulations, Best Buy also noted that product safety also was a risk. It noted in its sustainability report that "the public has raised concerns over possible risks to children of swallowing coin-sized 'button' batteries found in common electronics products such as slim remote controllers, toys and games." It explained, "When swallowed by young children, the batteries have been reported to cause internal injury and even death." It noted that the U.S. Consumer Product Safety Commission (CPSC) "reached out to the electronics industry and battery manufacturers, urging it to develop warnings and industry standards to address the issue." Best Buy said it "developed a potential solution called a 'Disc Battery Pressure-Activated Cap,' for which we filed a patent in February 2012." In addition, it said, it participated actively in industry efforts "to develop safety standards for products using button cell batteries and warnings and instructions for consumers." Best Buy also pointed out that its own "proposed guidelines have been reviewed by industry members and consumers and are being considered for inclusion in product-safety standards."

Human rights: In its 10-K, Best Buy said that "risks associated with the vendors from whom our products are sourced could materially adversely affect our revenue and gross profit." It explained, "The products we sell are sourced from a wide variety of domestic and international vendors." It underscored that it requires "all of our vendors to comply with applicable laws, including labor and environmental laws, and otherwise be certified as meeting our required vendor standards of conduct." Notwithstanding these efforts, it noted, "Our ability to find qualified vendors who meet our standards and supply products in a timely and efficient manner is a significant challenge, especially with respect to goods sourced from outside the U.S."

"Over the past few years," Best Buy further explained in its sustainability report, "we've experienced a significant increase in stakeholder pressure to address the social and environmental challenges we face in our supply chain." "In addition to NGO and activist organizations," it noted, "investors rightly recognize that the supply chain represents a significant risk to the reputation and operations of retail companies, and they make investment decisions based on how well they manage these risks." Furthermore, it said, "Governments also are getting more involved, establishing laws that seek to improve supply chain practices…" Moreover, it said, its own employees "continue to set high expectations for Best Buy's sustainability efforts and even our customers are starting to make purchasing decisions based in part on how we manage our supply chain." Best Buy noted it was responding through its vendor code and its participation in the Electronics Industry Citizenship Coalition.

Ethics: Best Buy reported in its 10-K two class action law suits. The first, filed in February 2011 by the IBEW Local 98 Pension Fund, and later joined by an individual Rene LeBlanc and others, in the U.S. District Court for the District of Minnesota, alleges that Best Buy and its officers, in connection with press releases and other statements on Best Buy's fiscal 2011 earnings guidance, made false or otherwise misleading statements. Best Buy won a request to dismiss the case, but the plaintiffs appealed, and their motion is still being reviewed by the court. The second, a shareholder derivative action, was filed against both present and former members of Best Buy's board serving during the relevant periods in fiscal 2011 and the company in the U.S. District Court for the State of Minnesota. The lawsuit alleges that the director defendants breached their fiduciary duty, among other claims, by "failing to correct public misrepresentations and material misstatements and/or omissions regarding our fiscal 2011 earnings projections and, for certain directors, selling stock while in possession of material adverse non-public information." The plaintiffs seek damages, including interest, equitable relief and reimbursement of the costs and expenses they incurred in the lawsuits." Best Buy said it believes "the allegations in the above securities actions are without merit, and we intend to defend these actions vigorously."

Board diversity: In its proxy statement, Best Buy said that its "Corporate Governance Principles specify that diversity on the Board be considered by the Nominating Committee in the director identification and nomination process." It added, "When considering candidates, the Nominating Committee seeks nominees with a broad range of experience from a variety of industries and professional disciplines, such as finance, academia, law and government, along with a diversity of gender, ethnicity, age and geographic location."

Pay links: Also in its proxy statement, Best Buy's compensation disclosures note that its sustainability strategy "is clearly an important consideration as we focus on our turnaround." Therefore, it had tied annual bonus payments to the progress in ramping up electronics take back, energy efficiency, people and other critical sustainability initiatives, depending on the executive's responsibilities.

- ## Consumer Staples

Consumer Staples companies—from the makers of food and beverages to personal care and household products firms—were above average reporters in many respects. The industry included an integrated reporter—**Clorox**—and was the most likely to report water use risks and opportunities in sustainability reports, perhaps not surprising given the beverage producers in the sector. Consumer staples companies also were more likely than other companies to report across all issues, except for the Dodd-Frank disclosures on mine safety, conflict minerals and government payments for the obvious absence of resource extraction activity in the sector, as well as hazardous waste. The overall average reporting assessment using Si2's method yielded 21 points for the industry, a fifth place ranking, and well above the 17.5 average for the S&P 500. *(See table below.)*

The sector was less apt to report environmental issues (28.1 compared with 38 percent for the S&P 500) and other sustainability-related liabilities and contingencies (37.5 compared with 41.9 percent), although it was the third most likely to engage in sustainability reporting. It also was more likely than most to have board diversity statements with gender and/or racial factors for director nominees, as well as executive pay links to social criteria.

Consumer Staples	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	0.0%	0.0%				
Conflict Minerals	0.0%	0.0%				
Government Payments	0.0%	0.0%				
Climate Change	75.0%	3.1%	62.5%	15.6%	53.1%	53.1%
Environmental Management	68.8%	9.4%	53.1%	15.6%	53.1%	53.1%
Water Use	40.6%	3.1%	28.1%	12.5%	53.1%	40.6%
Hazardous Waste	46.9%	0.0%	40.6%	3.1%	12.5%	9.4%
Waste Management	37.5%	3.1%	28.1%	9.4%	65.6%	65.6%
Product Formulations	40.6%	9.4%	46.9%	21.9%	62.5%	62.5%
Employment	59.4%	15.6%	46.9%	15.6%	59.4%	59.4%
Human Rights	9.4%	0.0%	9.4%	0.0%	21.9%	15.6%
Ethics	37.5%	0.0%	34.4%	3.1%	21.9%	18.8%

Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.

Areas where this industry group posted the highest percentage among all industries are highlighted in red.

Source: Sustainable Investments Institute (Si2), Washington, DC

Water use: As noted earlier, Consumer Staples firms were the most likely to disclose water use risks and opportunities in sustainability reports, and more than half did. The sector posted above average disclosure rates for risks across 10-K filings (close to 41 percent) and for risks (more than 28 percent) and opportunities (close to 13 percent) in annual reports for information on water use. Beverage companies figured prominently in these discussions. For example:

- **PepsiCo** in its 10-K filing said, "Water is a limited resource in many parts of the world and demand for water continues to increase. Our reputation could be damaged if we or others in our industry do not act, or are perceived not to act, responsibly with respect to water use." It also noted that laws regulating access to and use of water or utilities, as well as those relating to the regulation of water rights and treatment, also were significant risks for the company. PepsiCo went on to say in its sustainability report that "water stewardship is one area where that balance is critical for our business." A pilot it launched with 350 British farmers in 2010 aims to cut water applied to crops by half, and it said it was exploring new technologies with its farmers to reduce water use going forward. It noted that that one innovation, the ReCon water conservation tool deployment, "has helped sites across the world identify 2.2 billion liters of water savings, with a corresponding cost savings opportunity of nearly $2.7 million."

- Similarly, **Molson Coors Brewing** said in its 10-K that water it uses "in the brewing process is from local sources in the communities where our breweries operate." It told investors that its MillerCoors division, which operates in water-constrained areas of Colorado, "has water rights to provide for and to sustain brewing operations in case of a prolonged drought in the regions for which it has operations," and "does not anticipate future difficulties in accessing water or agricultural products." Nonetheless, it noted, "There are also water availability risks. Climate change may cause water scarcity and a deterioration of water quality in areas where we maintain brewing operations." Furthermore, it said, "The competition for water among domestic, agricultural and manufacturing users is increasing in some of our brewing communities." In addition, "Even where water is widely available," it said, "water purification and waste treatment infrastructure limitations could increase costs or constrain our operations."
- **Colgate-Palmolive** noted water risks in its annual report, too. However, it went on to describe its efforts to reduce its water consumption. It noted that it had reduced the use of water used in its manufacturing operations by 40 percent since 2005 and the water directly associated with the content of its products by 15 percent since 2005, all also contributing to cost savings.
- Likewise, **General Mills** also noted in its sustainability report that "water is critical to food manufacturing," as it is "used as an ingredient, a coolant, and to clean and sanitize manufacturing equipment." It said it was tacking water use in each of its facilities "to identify areas of high usage and target opportunities for water conservation." To date, it said, its efforts have identified improvements saving an estimated 1.5 million gallons of water per year. One example it highlighted was its Old El Paso sauce division's improvements to its jar washing process, which yielded water use and cost savings of about $22,000 per year. It also described how it was working with WWF to map potential water risks in its supply chain, including "physical, regulatory and reputational water risks" associated with sourcing particular commodities. It said it developed a water stewardship strategy using the information "that will help us work toward improving water efficiency and managing water risks in both our operations and throughout our supply chain."

Climate change: Three-quarters of the Consumer Staples firms had identified climate change risks in 10-K filings, and more than half described opportunities to drive cost savings, as well as develop products, to meet these challenges. Risks related to water surrounding climate change were common. For example:

- **ConAgra Foods** said in its 10-K filing, "Climate change, or legal, regulatory or market measures to address climate change, may negatively affect our business and operations." It explained, "There is growing concern that carbon dioxide and other greenhouse gases in the atmosphere may have an adverse impact on global temperatures, weather patterns, and the frequency and severity of extreme weather and natural disasters." It continued, "In the event that such climate change has a negative effect on agricultural productivity, we may be subject to decreased availability or less favorable pricing for certain commodities that are necessary for our products, such as corn, wheat, and potatoes." Water continued as a theme as well in an industry that depends on it to a high degree, and ConAgra noted, "We may also be subjected to decreased availability or less favorable pricing for water as a result of such change, which could impact our manufacturing and distribution operations."

It also pointed to the potential for natural disasters and extreme weather conditions to disrupt its operations and negatively affect productivity. It noted that it was trying to address these risks against a backdrop of increasing regulation. However, it warned, "In the event that such regulation is enacted and is more aggressive than the sustainability measures that we are currently undertaking to monitor our emissions and improve our energy efficiency, we may experience significant increases in our costs of operation and delivery." In particular, it said, "increasing regulation of fuel emissions could substantially increase the distribution and supply chain costs associated with our products."

- Likewise, **Brown-Forman** said in its 10-K that its "comprehensive environmental sustainability strategy includes (a) assessing climate change risks related to the availability and prices of our key agricultural inputs, including grains, agave, and grapes, and (b) mitigating these risks where appropriate." The theme surrounding water concerns related to climate change cropped up with Brown-Forman, too, when it reported it was "in the process of assessing risks in our operations and supply chain related to water availability and quality in order to formalize strategies to address these risks." It also noted that it was setting goals "to reduce energy use, wastewater and greenhouse gas emissions on a per unit basis as well as strive for zero waste sent to landfill from our facilities, which we believe will improve our business operations."

  Like others, it also saw regulation as holding the potential to "negatively affect our operations and financial performance." It noted that regulation regarding climate change in the United States and other countries "may increase our operational costs, due to the higher cost of compliance" and could also increase consumer energy prices, which could reduce consumer demand for our beverage alcohol brands." It also noted that regulation might lead to "higher costs or unavailability of materials could adversely affect our financial results, as could our inability to obtain certain finished goods." In addition, it described physical risks, such as extreme weather, that could disrupt its operations.

- **Clorox** in its integrated annual and sustainability report said it was working to reduce greenhouse gas emissions and saw energy savings from these efforts as a positive for its bottom line. It noted it had been focusing on logistics and had "reduced the footprint of our finished-goods shipments by moving 30 percent of our shipment miles from trucks to more eco-efficient rail and by using more efficient EPA -designated SmartWay carriers for 95 percent of our remaining truck miles."

- **Colgate-Palmolive** also pointed to positive impacts on its bottom line from climate-related activities in its sustainability report, mostly focused on transportation efficiencies. It noted that a realignment of its European distribution network had reduced its greenhouse gas emissions by 15 percent and saved it more than $2.3 million from 2008 to 2010. In addition, efforts at its Hill's Pet Nutrition division had cut fuel costs by $2.8 million from 2007 through 2010. It also had opened a Colgate distribution center "in a strategic location in 2009, resulting in one million fewer miles travelled each year and over $1.8 million in savings annually."

- **General Mills** shared several examples in its sustainability report pointing to the nexus of addressing climate risks while improving operational and financial results. It said that an audit of its Wellston, Ohio, plant, had pinpointed "77 different opportunities for curbing energy use at the facility, from switching to LED lighting in freezers (LEDs can be turned on and off in very cold temperatures, unlike regular lights) to capturing more of the heat generated by everyday production at the plant and reusing it, rather than releasing it into the atmosphere." The energy-saving opportunities represented about $1 million in annual savings for the plant.

Alternative fuels were another opportunity. It described a biomass burner in Fridley, Minnesota, it opened in January 2011 that burns leftover oat hulls from the production of Cheerios to produce 90 percent of the steam needed to heat the plant and produce oat flour. The burner cut the plant's carbon footprint by 21 percent and saved the company about $390,000 per year, mostly from reduced natural gas costs.

Transportation also was key. General Mills noted that transportation efficiency projects it had tapped, using "sophisticated software to get raw materials like ingredients and paperboard used in our packaging to our plants more efficiently" had greatly reduced greenhouse gas emissions and saved the company $4 million during its 2012 fiscal year alone. A new algorithm for the program is expected to yield another $2 million in savings and additional reductions in carbon dioxide emissions.

Environmental management: Close to 70 percent of Consumer Staples firms addressed risks in this area, and half identified opportunities, mostly through the implementation of environmental management systems. For example:

- **Philip Morris International** said in its 10-K that it had "specific programs across our business units designed to meet applicable environmental compliance requirements and reduce wastage as well as water and energy consumption," and it had "developed and implemented a consistent environmental and occupational health and safety (EHS) management system, which involves policies, standard practices and procedures at all our manufacturing centers." It also had "engaged an external certification body to validate the effectiveness of our EHS management system at all our manufacturing centers around the world, in accordance with internationally recognized standards." It noted that the system, while requiring investments from all of its subsidiaries, was creating "improved performance" and reducing risks and costs associated with compliance with environmental laws and regulations. "Based on the management and controls we have in place," it said, "environmental expenditures have not had, and are not expected to have, a material adverse effect on our consolidated results of operations, capital expenditures, financial position, earnings or competitive position."
- **Brown-Forman** noted in its annual report to investors that it was "committed to environmental stewardship and sustainability," and had systems in place promote "the efficient use of natural resources, conserving energy and water, and minimizing waste," which also were driving operational efficiencies.
- Likewise, **Kimberly-Clark** said in its sustainability report that its "Environment, Health and Safety Management System (EHS MS) was designed to standardize environmental and safety management systems and compliance programs, while enhancing overall performance." It said its EHS MS guided its facilities to "systematically identify, control and minimize the risk of loss to employees, equipment, materials and the environment…and continually improve EHS capabilities and performance." The system is based on ISO 14001 and OHSAS 18001.

Waste management: An industry which relies heavily on packaging, waste management was a topic discussed by nearly 66 percent of the Consumer Staples firms, albeit mostly in sustainability reports. For example:

- **PepsiCo** said in its 10-K filing, "We made investments to conserve energy and raw materials, and to reduce waste in our facilities, and to improve our packaging process to continue to reduce total packaging volume, recycle containers, use renewable resources and remove environmentally sensitive materials."
- **General Mills** in its sustainability report noted that waste management efforts also yielded financial gains. It described its effort begun in 2007 to "curb the use of printers and paper at our headquarters in Minneapolis." It noted, "By reducing the number of printers and setting computer defaults to print in black instead of color and on both sides of a sheet of paper we have…reduced paper use by 21 million pages per year…and saved $1.1 million per year." On the operational level, its Totino's pizza facility in Ohio was reducing food waste for a savings of $200,000 annually. Another plant in New Mexico had increased recycling from 48 to 90 percent of output, reducing waste going to landfills by 33 tons per month and saving the plant money, while producing $2,500 per month in recycling revenue.

  Product packaging design also was a critical area for General Mills. It said its efforts to reduce packaging were yielding $12 million in annual savings and included: "wrapping the packaging around our chewy Nature Valley and Fiber One bars a little tighter;" and deploying a thinner plastic liner for its cereal boxes; using a lighter weight corrugated fiber to pack and display cases of snacks.

Product formulations: While most product innovations in the sector were aimed at reducing packaging, water use and energy from production and transportation, the sector also had product liability issues. Tobacco was the best example:

- **Reynolds American** in its 10-K described a raft of legal proceedings and claims related to "cancer and other diseases, as well as addiction," pending against its RJR Tobacco, American Snuff Co. and their affiliates, including RAI, RJR and B&W. It noted, "These pending legal proceedings include claims relating to cigarette products manufactured by RJR Tobacco…as well as claims relating to smokeless tobacco products manufactured by American Snuff Co." These included compensatory and punitive damages. Reynolds American sought to assure shareholders that "based on their experience in the smoking and health tobacco litigation against them and the strength of the defenses available to them in such litigation, RJR Tobacco and its affiliates believe that their successful defense of smoking and health tobacco litigation in the past will continue in the future." It disclosed that its RAI affiliate had accrued $64 million for four cases in Florida under appeal, including $53 million for potential compensatory and punitive damages and $11 million for attorneys' fees and statutory interest through December 31, 2011. "No other liabilities for pending smoking and health litigation have been recorded as of December 31, 2011," it said.

  Generally, it said, RJR Tobacco and its affiliates "have not settled, and currently RJR Tobacco and its affiliates do not intend to settle, any smoking and health tobacco litigation claims," and it was its policy to "vigorously defend all tobacco-related litigation claims." It noted the only meaningful settlements it had engaged in were the U.S. State Settlement Agreements and the funding by various tobacco companies of a $5.2 billion trust fund mandated by the master settlement agreement to benefit tobacco growers.

However, many other companies in the sector were focused on making product lines more sustainable. For example:

- **Procter & Gamble** highlighted in its sustainability report that it had delivered $40 billion in revenues from products with advertised sustainability attributes and was projected to exceed it goal of $50 billion in cumulative sales of these products by 2012. The products counted, it said, "have at least a 10 percent improvement in their environmental profile compared to a previous or alternative version of that product." As examples, it described "the compaction of our powder laundry detergents in North America and the packaging changes we made in our Gillette Fusion ProGlide Razors in Western Europe…"

Employment: As heavy manufacturers and large employers, risks related to labor relations and health and safety were common throughout the sector, with more than three-fifths of firms reporting them. However, almost all of the same firms pointed to the importance of workforce development. For example:

- **Kimberly-Clark** warned in its 10-K, "If we are unable to hire, develop or retain key employees or a skilled and diverse workforce, it could have an adverse effect on our business." It noted that "a skilled and diverse international workforce is a significant factor in developing product innovation, as well as providing key viewpoints representative of our international consumer base." However, it also said that it competes "to hire new employees and then seek to train them to develop their skills," and that it "may not be able to successfully recruit, develop and retain the key personnel that we need." It also noted the challenges of maintaining a competitive workforce against the backdrop of cost cutting initiatives.
- **Hormel Foods** also outlined risks in its annual report, saying "Deterioration of labor relations or increases in labor costs could harm the Company's business." It explained that 5,500 of its 19,500 employees are represented by labor unions, principally the United Food and Commercial Workers' Union. "A significant increase in labor costs or a deterioration of labor relations at any of the Company's facilities that results in work slowdowns or stoppages could harm the Company's financial results." It highlighted that union contracts at its facilities in Knoxville, Iowa; Perrysburg, Ohio; and Stockton, California were due to expire during its 2012 fiscal year, and negotiations at three other facilities were ongoing.
- By contrast, **Dean Foods** said in its sustainability report, "We know that a diverse workforce provides a powerful competitive advantage in the marketplace." To achieve diversity, it noted that its plants all had affirmative action plans in place and it had also taken to improve gender diversity among its workers.
- **H.J. Heinz** outlined several initiatives in the area of workforce development. It cited "diversity" as a "strategic imperative" for the company, and it noted that it had cultivated "external relationships with professional and civic groups" to help increase diversity among its ranks, as well as its diversity leadership, worker councils and policies in these areas. It also noted that it was critical for it "to maintain a good working relationship with labor unions across each of our Business Units," and that it had "a history of negotiating fair and competitive contracts that provide family-sustaining jobs and wages." At the end of 2011, 60 percent of its employees in the United States and Canada were covered by collective bargaining agreements, it noted.

  Heinz also addressed health and safety, as well as wellness programs, to benefit employees as well as improve productivity. It also underscored the critical roles unions play in this area, and that "all of its plants with union-represented employees in the United States and Canada have labor-management committees comprised of local management, union representatives and bargaining unit employees," which meet "regularly and cooperatively" to "improve plant working conditions and to foster continuous improvement in a non-adversarial manner." And, it said, it believed “occupational health and safety is the most important element of good operational performance from the factory floor to our global offices.” It remained committed to a zero-incident goal in this area. It also described its training and development efforts focused on helping employees to “develop the skills, competencies and behaviors that are expected at Heinz.”

- **Dr. Pepper Snapple Group** in its sustainability report also said “employee safety is paramount.” It reviewed the progress it had made since 2006 “in consolidating our employee health and safety programs, unifying our efforts behind a cross-functional, comprehensive approach to safety,” including “best practices such as written processes for the maintenance of equipment and machinery; hazardous chemicals handling, labeling and storage; having Material Safety Data Sheets (MSDS) readily available on our corporate intranet and elsewhere; combustibles/flammables handling, labeling, storage and disposal; personal protective equipment; and first-aid supplies accessibility and training.”

  It also described metrics it had to measure its progress in this area and highlighted its goal of a 25 percent reduction in its lost-time injury frequency rate (LTIFR) by 2015. In 2011, it had an LTIFR of 1.8 incidents per 200,000 hours worked, an 11 percent reduction from its 2009 baseline. At the same time, its overall accident rate was 5.77 incidents per 200,000 hours worked, a 7 percent reduction since 2009.

Human rights: Supply chain risks tied to human rights abuses were the subject of information provided by about a fifth of the companies in the sector. For example:

- **Philip Morris International** in its 10-K highlighted risks related to labor conditions for tobacco workers. It noted, “In July 2010, Human Rights Watch published a report raising issues related to labor conditions for tobacco workers in Kazakhstan, particularly migrant workers.” In response, it said, “We have undertaken both an internal and third-party review of our labor practices and policies in Kazakhstan and subsequently globally,” seeking “advice of local and international non-profit organizations with expertise in the area of fair labor practices.” It told investors that it was “implementing a comprehensive Agricultural Labor Practices Code, which strengthens and expands our existing practices and policies,” including “setting additional principles and standards for working conditions on tobacco farms, tailored training programs, and regular external assessments to monitor the progress we, our suppliers and farmers make.”
- Similarly, **Hershey Foods** said in its sustainability report that it was “committed to attaining a deep understanding of our supply-chain risks and impacts in particular with regard to human rights, product safety and environmental issues in order to give preference to those suppliers who perform well in these areas.” It too was “undertaking internal risk analysis and supplier audits, reviewing supplier self-assessments, identifying high-risk suppliers and devising remediation plans to improve their performance,” and also had engaged third parties in helping it with this effort.

Ethics: Product liability suits were a common theme throughout the Consumer Staples sector. As noted earlier, tobacco companies had numerous concerns in these areas, but many other firms also reviewed the importance of maintaining transparency and integrity in their conduct. As in other sectors, the Foreign Corrupt Practices Act (FCPA) was a common risk mentioned. For example:

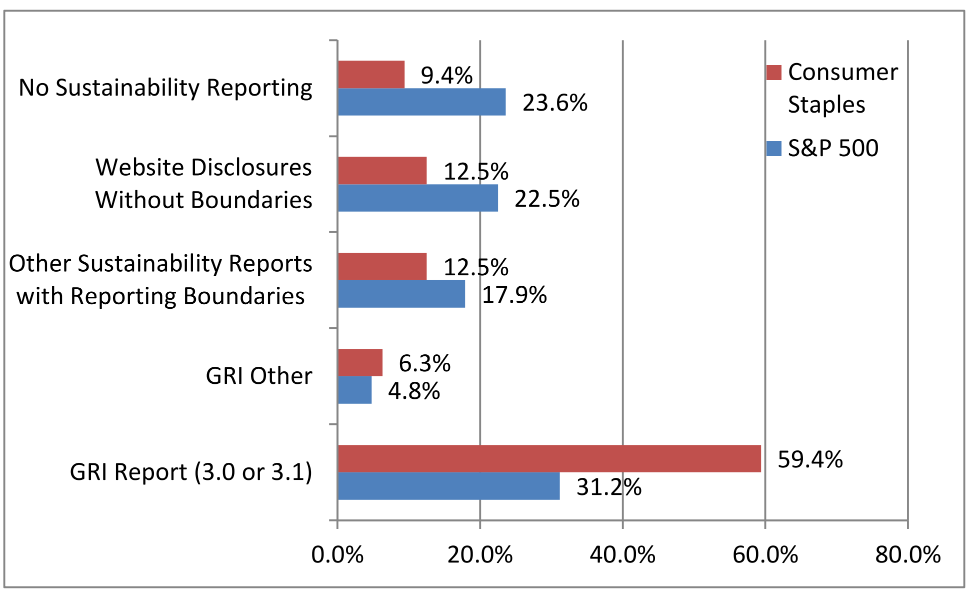
- **Avon Products** revealed in its 10-K that it was “investigating Foreign Corrupt Practices Act (FCPA) and related U.S. and foreign law matters, and from time to time we may conduct other internal investigations and compliance reviews, the consequences of which could negatively impact our business.”

Avon disclosed that starting in 2008 it had "engaged outside counsel to conduct an internal investigation and compliance reviews focused on compliance with the FCPA and related U.S. and foreign laws in China and additional countries." At the same time, it had "voluntarily contacted the United States Securities and Exchange Commission (SEC) and the United States Department of Justice to advise both agencies of our internal investigation." It said the target of the internal investigation and compliance reviews were "certain expenses and books and records processes, including, but not limited to, travel, entertainment, gifts, use of third party vendors and consultants and related due diligence, joint ventures and acquisitions, and payments to third-party agents and others, in connection with our business dealings, directly or indirectly, with foreign governments and their employees."

In an unrelated matter in 2011, Avon also had received a subpoena from the SEC, "requesting documents and information in connection with a Regulation FD investigation of the Company's contacts and communications with certain financial analysts and other representatives of the financial community during 2010 and 2011." It said it was cooperating in the matter.

Avon warned more broadly, "Any determination that our operations or activities are not, or were not, in compliance with existing United States or foreign laws or regulations could result in the imposition of substantial fines, interruptions of business, loss of supplier, vendor or other third party relationships, termination of necessary licenses and permits, and other legal or equitable sanctions," and "other legal or regulatory proceedings, as well as government investigations, which often involve complex legal issues and are subject to uncertainties, may also follow as a consequence."

Sustainability reporting: As noted earlier, Consumer Staples companies ranked third overall in reporting rates, with more than 90 percent of the sector engaging in some form of sustainability reporting. Moreover, the sector doubled the rate of S&P 500 companies using the GRI standard, with nearly 60 percent of Consumer Staples firms using GRI 3.0 or 3.1 and another 6.3 percent making reference to the standard. *(See bar chart.)*



Financials in sustainability reporting: Of those reporting, the vast majority included financials of some sort in their sustainability reporting, with 34.5 percent incorporating consolidated or full financials and another 48.3 percent posting at least some economic and general financial information. Only 17.2 percent had no financial information in their sustainability reports, and the sector was the fourth most likely to include financial reporting in sustainability reports.

Board diversity: The sector was more inclined than the S&P 500 as a whole to include board diversity disclosures in proxy statements with references to incorporating gender and/or racial factors into selecting director nominees. All told, 43.8 percent of the Consumer Staples firms did compared with 37.2 of the S&P 500. For example:

- **McCormick & Co.** said, "The Board does not have a formal policy with regard to diversity of Board nominees; however, McCormick's Corporate Governance Guidelines provide that diversity of background is a consideration in selecting Board nominees, and the selection criteria established by the Nominating/Corporate Governance Committee include a preference that candidates enhance the diversity of the Board (for example, with respect to gender, race, ethnicity, and culture)." It explained, "Diversity is valued because the Board believes that a variety of perspectives and experiences contributes to a more enhanced decision-making process."

Pay links: Consumer staples firms were less likely to tie environmental factors to executive pay than the S&P 500 (12.5 versus 13.3 percent for the index), as well as ethical criteria (9.4 versus 10.7 percent). However, the sector was more likely to link social metrics and executive pay (40.6 versus 27.2 percent). For example, **Kellogg**'spay-for-performance program included operational metrics relating to safety (food and people) and diversity and inclusion. For each named executive officer, 10 percent of his or her performance payout was tied to these key indicators.

Points: Fifth overall among sectors in points, Consumer Staples firms averaged a score of 21 in Si2's overall disclosure evaluation, considerably higher than the 17.5 average for the S&P 500. While **Clorox** was the sole truly integrated reporter in the sector, it lagged **Coca-Cola's** 37 points. Coca-Cola, therefore, is profiled below.

Sector Profile: Coca-Cola

Coca-Cola is the largest nonalcoholic beverage company in the world, and its portfolio includes four of the five largest soft drink sellers worldwide by volume: Coca-Cola, Diet Coke, Fanta and Sprite. Also in its brand arsenal are top selling Minute Maid juices, Powerade sports drinks, and Vitamin Water enhanced waters. It also manufactures and markets bottled water, energy drinks, as well as ready-to-drink teas and coffees. It is the most geographically diverse beverage maker, too, with sales in 200 countries worldwide. As it says itself, "Water is the main ingredient in substantially all of our products," and water use was its chief sustainability concern, but it also had extensive disclosures on product formulations, climate change, employment matters and human rights.

Its sustainability report used GRI 3.1 and self-declared a B+ reporting level and articulated the company's view of the clear link between sustainability and long-term financial performance:

> From our board room to our bottling plants, we recognize that environmental sustainability is essential for the sustainability of our business. Consideration of the environment is increasingly built into everything we do. This is reflected in our water stewardship efforts, our procurement practices, our goal for reducing greenhouse gases, our promotion of sustainable agriculture, our packaging innovations and much more. As human beings and citizens of the world, we desire a planet with less pollution and healthy ecosystems today and for future generations. As employees of The Coca-Company, we recognize that our business will only be viable if communities and their surrounding ecosystems are viable as well. We bring both perspectives to bear on our daily operations and on our longer-term planning....

Water use: In its 10-K filing, Coca-Cola told shareholders, "Water scarcity and poor quality could negatively impact the Coca-Cola system's production costs and capacity." It explained water "is also a limited resource in many parts of the world, facing unprecedented challenges from overexploitation, increasing pollution, poor management and climate change." It further warned, "As demand for water continues to increase around the world, and as water becomes scarcer and the quality of available water deteriorates, our system may incur increasing production costs or face capacity constraints which could adversely affect our profitability or net operating revenues in the long run."

Given the risks, water management was a central tenet of Coca-Cola's sustainability strategy, as described in its sustainability report. "Across our system," it said, "we are reducing the amount of water we use per liter of finished product, treating and recycling wastewater (in some cases discharging it cleaner than it was originally), and striving to replenish an amount of water equal to what we use in our finished beverages by 2020." (It presently replenishes 35 percent of the water it uses.) Coca-Cola also noted it was engaged in "382 community water projects around the world and working locally and globally to reform water policy and improve management of water resources." With its bottlers, Coca-Cola highlighted that it had invested $1 billion since 2001 to align and improve its waste water standards. In addition, it began "developing the world's most extensive source of water data" in 2004, "investing more than $1.5 million compiling crucial water risk data from dozens of public sources." It donated the data to Aqueduct in 2011 to accelerate development a water risk atlas to help companies, investors, governments and others "to create water risk maps with a high level of detail and resolution."

Product formulations: Coca-Cola also warned investors in its 10-K filing that its businesses were exposed to risks related to laws and regulations covering "product safety, advertising and labeling, container deposits, recycling or stewardship," among others. In the United States, it noted, "the production, distribution and sale of many of our products are subject to, among others, the Federal Food, Drug, and Cosmetic Act, the Federal Trade Commission Act, the Lanham Act, state consumer protection laws, the Occupational Safety and Health Act, and various environmental statutes, as well as various state and local statutes and regulations." Outside the United States, it added, "the production, distribution, sale, advertising and labeling of many of our products are also subject to various laws and regulations."

Of particular concern, it said, were laws seeking "to limit or eliminate the use of bisphenol-A, or BPA (an odorless, tasteless food-grade chemical commonly used in the food and beverage industries as a component in the coating of the interior of cans)," which it said "may result in increased compliance costs, capital expenditures and other financial obligations for us and our bottling partners, which could affect our profitability or impede the production or distribution of our products, which could affect our net operating revenues."

In addition, it highlighted a California law known as Proposition 65, which "requires that a warning appear on any product sold in California that contains a substance that, in the view of the state, causes cancer or birth defects." It said that California "maintains lists of these substances and periodically adds other substances to these lists," but "Proposition 65 exposes all food and beverage producers to the possibility of having to provide warnings on their products in California because it does not provide for any generally applicable quantitative threshold below which the presence of a listed substance is exempt from the warning requirement." Consequently, it said, "the detection of even a trace amount of a listed substance can subject an affected product to the requirement of a warning label," although it said a manufacturer was exempt if "a product can demonstrate that the use of that product exposes consumers to a daily quantity of a listed substance that is: below a 'safe harbor' threshold that may be established; naturally occurring; the result of necessary cooking; or subject to another applicable exemption." It also listed concerns surrounding obesity and the potential health effects of its products, as well as associated laws and regulations both pending and potential, as significant risks.

In its sustainability report, Coca-Cola focused on package innovations. It noted that 85 percent of its unit case volume is delivered in recyclable bottles and cans, pointing to an area of environmental responsibility where it could make a big difference. It said it was conducting lifecycle assessments of its various packaging around the world, as well as local requirements. It noted that it believed "capturing the embodied energy and raw materials in beverage bottles for reuse through recycling…is a better option for our business and for the environment than biodegradable packaging when considered over the package lifecycle." It also highlighted that it had direct financial incentives to improve its performance on packaging, noting that packaging that was inefficient to produce from an energy usage standpoint "could erode our profitability," as could escalating costs of packaging materials like petroleum and aluminum. Therefore, it said, it also was striving to use the least amount of natural resources in all of its packaging. So-called "light-weighting" strategies it had developed also yielded approximately $200 million in cost savings over the last two years alone.

Its sustainability report also discussed obesity as a concern. The company said that the "health of our business is interwoven with the wellbeing of the communities we serve," so it was helping to educate consumers about the value of daily exercise and arming them with critical information so that they can "make informed nutritional choices." However, it said, "As the world becomes more concerned about the public health consequences of obesity, some researchers and health advocates have unfairly blamed the consumption of sugar-sweetened beverages as the cause." It added, "Such public sentiment, proposed government regulation and other measures intended to discourage the consumption of our beverages is not only ineffective but could undermine finding a true solution." It viewed obesity as resulting from an "energy imbalance—too many calories consumed and too few expended," and said, "No single food or beverage alone is responsible for people being overweight or obese." At the same time, it emphasized, it offered consumers plenty of low- and no- calorie options.

Climate Change: Coca-Cola's 10-K also highlighted climate change as a significant risk that "may negatively affect our business." It reviewed existing climate change science and potential effects on its operations. For example, it said, "Decreased agricultural productivity in certain regions as a result of changing weather patterns may limit availability or increase the cost of key agricultural commodities, such as sugarcane, corn, beets, citrus, coffee and tea, which are important ingredients for our products." It added, "Increased frequency or duration of extreme weather conditions could also impair production capabilities, disrupt our supply chain or impact demand for our products." In addition, it said, "Climate change may also exacerbate water scarcity and cause a further deterioration of water quality in affected regions, which could limit water availability for our system's bottling operations."

It said in its sustainability report that it was meeting the climate challenge through energy efficiency and natural resource conservation programs. By improving its energy efficiency, it noted, it had avoided approximately $36 million in energy costs in 2011 and more than $883 million cumulatively since 2004. As an example of its efforts, it pointed to a combined heat and power system it installed at one facility in 2010 that is now providing 19 percent of the site's heat and 60 percent of its electricity. The system was saving it $1 million per year in energy costs and avoidance of 3,345 tons of CO_2 emissions. In another example, it noted that its coolers are using 3 billion fewer kilowatt hours compared with 2008, and it continued to improve the energy efficiency of drink coolers across its system in 2011. "While the number of coolers being used to sell our products rose from 9 million to 10.5 million since 2008," it noted, "electricity use has declined." It also discussed the use of "intelligent energy management devices, or

EMDs, which control energy use more efficiently," which it said had reduced electricity use by 3 billion kilowatt-hours annually and by more than 2 million tons of CO2. In addition, Coca-Cola said it was addressing carbon emissions through the design of its packaging, as described with above with its "light-weighting" packaging efforts.

Waste management: Coca-Cola also noted risks related to packaging and "changes in laws and regulations relating to beverage containers and packaging could increase our costs and reduce demand for our products." For example, it said, "Legal requirements have been enacted in various jurisdictions in the United States and overseas requiring that deposits or certain eco-taxes or fees be charged for the sale, marketing and use of certain non-refillable beverage containers." Further, "Other proposals relating to beverage container deposits, recycling, eco-tax and/or product stewardship have been introduced in various jurisdictions in the United States and overseas…" It added, "Consumers' increased concerns and changing attitudes about solid waste streams and environmental responsibility and related publicity could result in the adoption of such legislation or regulations." It warned, "If these types of requirements are adopted and implemented on a large scale in any of the major markets in which we operate, they could affect our costs or require changes in our distribution model, which could reduce our net operating revenues or profitability." In its sustainability report, Coca-Cola highlighted its efforts to reduce packaging and to work with bottlers and recycling efforts.

Human rights: In its 10-K filing, Coca-Cola noted, "campaigns by activists attempting to connect us or our bottling system with human and workplace rights issues in certain emerging markets could adversely impact our corporate image and reputation." It underscored its endorsement of the United Nations Human Rights Council's Guiding Principles for Business and Human Rights, "which outlines how businesses should implement the corporate responsibility to respect human rights principles," as well as the United Nations Global Compact and its LEAD program, and its participation in the Global Business Initiative on Human Rights. "Allegations that we are not respecting any of the 30 human rights found in the United Nations Universal Declaration of Human Rights, even if untrue, could have a significant impact on our corporate reputation and long-term financial results," it noted.

It reviewed these efforts and its policies in its sustainability report and noted that it had "begun the complex work of ensuring that our entire business system (including bottler affiliates) and supply chain align with our policies." It reiterated its expectation that its bottling partners and suppliers "avoid causing, or contributing to, adverse human rights impacts as a result of business actions and to address such impacts when they occur" and prevent and mitigate human rights impacts of their operations. It also noted that it worked with its business partners to fix human rights issues. It pointed to progress in this area, noting that SRI firm Calvert Investments had announced that Coca-Cola had met its ESG criteria "as a result of clear progress in labor and human rights."

Employment: Coca-Cola listed numerous employment-related risks in its 10-K, including if it were "unable to renew collective bargaining agreements on satisfactory terms" or if it or its bottling partners were to experience "strikes, work stoppages or labor unrest." It noted that "many of our associates at our key manufacturing locations and bottling plants are covered by collective bargaining agreements," and it highlighted that the number of its North American employees represented by labor unions jumped substantially by 19,000 with its acquisition of Coca-Cola Enterprises' North American business in 2010. "While we generally have been able to renegotiate collective bargaining agreements on satisfactory terms when they expire and regard our relations with associates and their representatives as generally satisfactory," it said, "negotiations in the current environment remain challenging, as the Company must have competitive cost structures in each market while meeting the compensation and benefits needs of our associates." Therefore, it warned, "If we are unable to renew collective bargaining agreements on satisfactory terms, our labor costs could increase, which would affect our profit margins," and any strikes, work stoppages or other forms of labor unrest at any of its major manufacturing facilities or at our or our major bottlers' plants, it said, "could impair our ability to supply concentrates and syrups to our bottling partners or our bottlers' ability to supply finished beverages to customers, which would reduce our net operating revenues and could expose us to customer claims."

Meanwhile, Coca-Cola's sustainability report described its efforts to uphold widely recognized workplace rights and to "maintain a well-managed and desired working environment." These efforts included maintaining good relations with the union representing the bulk of the 30 percent of its workforce that is unionized—the International Union of Food, Agricultural, Hotel, Restaurant, Catering, Tobacco and Allied Workers (IUF). It said it meets twice each year with IUF delegates from around the world to discuss labor and workplace issues and "to have frank conversations and address and resolve difficult issues across the table through serious and practical engagement from both sides." It also said that it encouraged its "bottling partners to collaborate with labor organizations as well." It also noted that it is "dedicated to maintaining a productive workplace by minimizing the risk of accidents, injury and exposure to health risks." It said its programs in this area emphasized extensive employee training. It also detailed its commitment to diversity and equal opportunity, which it considered critical to its corporate culture and future success.

Board diversity: In its proxy statement, Coca-Cola says, "The Board does not have a specific diversity policy, but considers diversity of race, ethnicity, gender, age, cultural background and professional experiences in evaluating candidates for Board membership.

Pay links: Also in its proxy statement, Coca-Cola said the board's Compensation Committee considered a number of quantitative and qualitative factors in setting each named executive officer's annual award under its incentive program, including: "Progress toward goals in the 2020 Vision, including in the areas of People, Planet, Productivity, Partners, Portfolio and Profit."

- ## Medical Devices

Medical Devices producers were across the board less likely to report on sustainability risks and opportunities in every category covered by this study. In fact, the sector received the lowest average composite score using Si2's methodology—8.9—among all industries in the S&P 500; none of the medical device companies were true integrated reporters. Within the sector, hazardous waste, environmental management, employment and ethics were high-water marks for disclosure. *(See box below.)* The industry was less apt to disclose environmental liabilities and contingencies than others and did so at a rate of 28.6 percent compared with the S&P 500 average of 38 percent. However, the trend flipped on other sustainability-related liabilities, with the sector disclosing in this area at an average of 42.9 percent, greater than the S&P 500 average of 41.9 percent.

Medical Devices	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	0.0%	0.0%				
Conflict Minerals	0.0%	0.0%				
Government Payments	0.0%	0.0%				
Climate Change	7.1%	0.0%	0.0%	0.0%	21.4%	21.4%
Environmental Management	28.6%	0.0%	28.6%	0.0%	42.9%	35.7%
Water Use	0.0%	0.0%	0.0%	0.0%	14.3%	14.3%
Hazardous Waste	57.1%	0.0%	28.6%	0.0%	14.3%	7.1%
Waste Management	7.1%	0.0%	7.1%	0.0%	21.4%	14.3%
Product Formulations	7.1%	0.0%	7.1%	0.0%	42.9%	42.9%
Employment	28.6%	14.3%	21.4%	14.3%	35.7%	28.6%
Human Rights	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ethics	21.4%	0.0%	21.4%	0.0%	21.4%	14.3%

Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.

Areas where this industry group posted the highest percentage among all industries are highlighted in red.

Source: Sustainable Investments Institute (Si2), Washington, DC

Hazardous waste: Almost three fifths of the Medical Devices sector touched upon hazardous waste in disclosures, with most citing risks in 10-K filings. The bulk surrounded liabilities associated with past and present manufacturing sites. For example:

- **Becton, Dickinson** acknowledged in its 10-K that it is "party to a number of Federal proceedings in the United States brought under the Comprehensive Environment Response, Compensation and Liability Act, also known as 'Superfund" and similar state laws." It described the affected sites as in "varying stages" of remediation, and it noted that other parties might be held liable for a portion of the cleanup costs for all of them. Nonetheless, Becton noted financial risks here for investors. In its sustainability report, it highlighted its efforts to decrease the amount of hazardous waste it creates, noting that it had cut hazardous waste generation by 38.1 percent in absolute terms and 44.4 percent on a normalized production basis in 2011, exceeding its target of 10 percent. It explained it did so through "material substitution, engineering and waste management practices," including installing a "state-of-the-art emissions control system in our sterilization facility in Curitiba, Brazil that reduces air emissions and hazardous waste generation." It also noted, however, that its emissions of volatile organic compounds (VOCs) increased by 31.4 percent in absolute terms and 18 percent on a normalized basis in 2011, although it also said that the increase largely reflected "better data collection" in this area.

- Similarly, **Hospira** said in its 10-K that its “manufacturing operations are subject to many requirements under environmental laws. In the U.S., the Environmental Protection Agency and similar state agencies administer laws which restrict the emission of pollutants into the air, the discharge of pollutants into bodies of water and the disposal of hazardous substances.” It also noted the failure to obtain proper permitting for these activities as a risk, and that it faced similar regulations outside of the United States. Still, Hospira assured investors that it “has management systems in place that are intended to minimize the potential for violation of these laws.” It “has been involved with a number of sites at which clean-up has been required, some as the sole owner and responsible party, and some as a contributor in conjunction with other parties.”

- Meanwhile, **Varian Medical Systems** focused on product risks and hazardous substances in its sustainability report. It said that the European Union’s Restriction of Hazardous Substances (RoHS), Registration, Evaluation and Authorization of Chemicals (REACH) and Waste Electrical and Electronic Equipment (WEEE) laws relate to restrictions of material content, material disclosure and end-of-life recycling of products affecting its business. It noted that it had recycled 670 tons of electronic equipment in Europe in 2010, and the issue was becoming “an area of increasing interest” in other countries.

  The company’s response has involved cross-functional teams spanning manufacturing, engineering, procurement, component engineering, service, information technology and environmental affairs “to address the business impact of these regulations” and “to ensure that Varian can respond appropriately with the information needed to meet these requirements.” To deal with RoHS requirements, Varian said it had “embarked on a project to eliminate defined hazardous substances from its products and is liaising with suppliers to ensure components do not contain such substances, with a view to eliminating hazardous substances wherever possible.” It noted that medical devices are exempt from RoHS regulations until 2014, but “Varian is nevertheless putting intensive programs in place to ensure compliance when that exemption ends.” It also had begun a “material content data collection and product compliance project” and “a comprehensive product stewardship program” to address these risks.

Environmental management: Nearly 43 percent of medical device companies talked about environmental management systems and related benefits. For example:

- **Boston Scientific** said in its 10-K filing that it maintains “an on-going initiative to seek ISO14001 certification at our plants around the world” to help it “engage in continuous environmental performance improvement efforts.” To date, it said, 11 of its 15 manufacturing and distribution facilities had attained ISO14001 certification.

- Similarly, **Baxter International** said it had implemented an environmental, health and safety management system “to achieve a sustainable enterprise that creates stakeholder value by advancing superior environmental stewardship, the highest level of employee health and well-being, and an injury-free workplace.” It said its system aimed to help it “conserve resources and minimize or eliminate adverse EHS effects and risks that may be associated with our products, services and operations” and “meet all applicable EHS laws…”

  Baxter also noted that it “considers feedback from internal and external stakeholders in proposing and establishing its long-term goals,” including those in the area of environmental management such as targets for safety, energy, waste and water. Its system also “applies the International Organization for Standardization (ISO) 14001 Environmental Management System Standard to systematically manage its environmental programs, and the Occupational Health and

Safety Assessment Series (OHSAS) 18001 to properly manage hazards that pose risk to employees." Baxter said it "generally requires third-party certification to ISO 14001 for the company's manufacturing and research and development sites, and distribution sites with a capacity of more than 10,000 filled pallets or a workforce of 100 or more people." As of year-end 2011, 66 Baxter locations (including all but one meeting the criteria outlined above) have met the requirements of ISO 14001. Meanwhile, Baxter "recommends but does not require facility certification to OHSAS 18001," although its principles had been incorporated into its own policies and safety programs. As of year-end 2011, 50 Baxter locations were certified to OHSAS 18001.

Employment: The Medical Devices industry is greatly dependent on highly skilled employees, so employment was a frequent risk cited and area of discussion for management with about a third of the companies including the topic in disclosures. For example:

- **Baxter International** warned in its 10-K filing, "If we fail to attract and retain key employees our business may suffer." It explained, "Our ability to compete effectively depends on our ability to attract and retain key employees, including people in senior management, sales, marketing and research positions," and "Competition for top talent in healthcare can be intense." It said its "ability to recruit and retain such talent will depend on a number of factors, including hiring practices of our competitors, compensation and benefits, work location, work environment and industry economic conditions."
- Likewise, **Edward Lifesciences** said in its 10-K that it "emphasizes competitive compensation, benefits, equity participation and work environment practices in its efforts to attract and retain qualified personnel, and employs a rigorous talent management system."
- **Becton, Dickinson** expanded in its sustainability report to include discussions of safety, as well as efforts to recruit and retain employees. It noted that its safety management system had produced continued improvements in safety performance since 2007, and that it was regularly reviewing factors to advance its model, including "findings of monthly safety inspections; root causes of first aid and recordable safety incidents; risk assessments for all machinery and processes; tracking and reporting of safety opportunities (near-miss incidents)." It also said it aims to "build a diverse workforce and create an inclusive culture where our associates feel valued for their unique contributions," which it believes is critical to staying competitive.
- **Medtronic** in its sustainability report discussed the importance of diversity, too, and to that end has created an executive-level advisory group and inclusion coalitions to create a "global strategy and local marketplace" approach to diversity. It talked about the value it saw in its employee engagement survey to gain feedback. "A diverse, inclusive, engaged workplace," it said, "provides the best environment to ignite innovation and accelerate global growth."

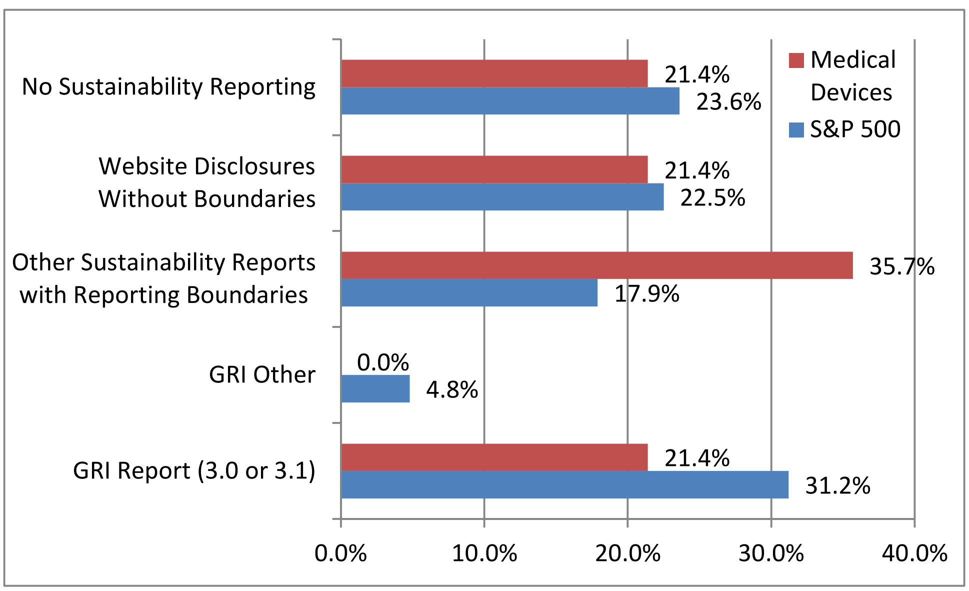
Ethics: About a fifth of the firms in the Medical Devices sector talked about ethics as it pertained to their overall financial performance and related risks. Discussions focused on risks related to the Foreign Corrupt Practices Act (FCPA), product liability and interactions with health professions. For example:

- **Medtronic** in its 10-K pointed to "risks relating to changes in foreign medical reimbursement programs and policies and changes in foreign legal and regulatory requirements." Furthermore, it said, its "international operations are governed by various U.S. laws and regulations, including Foreign Corrupt Practices Act (FCPA) and other similar laws that prohibit us and our business partners from making improper payments or offers of payment to foreign governments and their officials and political parties for the purpose of obtaining or retaining business."

Medtronic further noted, "Global enforcement of anti-corruption laws has increased substantially in recent years, with more frequent voluntary self-disclosures by companies, aggressive investigations and enforcement proceedings by U.S. and foreign governmental agencies, and assessment of significant fines and penalties against companies and individuals." This was an area of concern, as its "international operations create the risk of unauthorized payments or offers of payments by one of our employees, consultants, sales agents or distributors, because these parties are not always subject to our control." While it had implemented protections against such occurrences, it said, "its existing safeguards and any future improvements may prove to be less than effective, and our employees, consultants, sales agents or distributors may engage in conduct for which we might be held responsible." And, "Any alleged or actual violations of these regulations may subject us to government scrutiny, severe criminal or civil sanctions and other liabilities, including limitations on our ability to export products outside the U.S., and could negatively affect our business, reputation, operating results and financial condition."

- Meanwhile, **Hospira** in its sustainability report said, "pharmaceutical and device companies are subject to strict laws and rigorous scrutiny from regulatory and enforcement authorities across the globe concerning industry interactions with healthcare professionals." Hospira described the policies and procedures to ensure compliance with these requirements, known as Procedures for Interactions with Healthcare Professionals (PICs). It underscored that it regularly updated its polices and conducted extensive monitoring and training to support adherence. Notwithstanding these efforts, it said it was exposed to risks in this area, as well as with other ethical requirements, including the FCPA and other anti-bribery laws.

Sustainability reporting: Medical device companies measured up better than others in the S&P 500 in engaging in sustainability reporting overall, with 78.6 percent doing so compared with 76.4 percent for the S&P 500. Still, they lagged in using the GRI reporting standard, with only about a fifth doing so. *(See bar chart.)*



Financials in sustainability reports: For those engaging in sustainability reporting, 36.4 percent offered consolidated or partial financials, while another 27.3 percent gave briefings on economic impacts of their operations. The sector edged out the S&P 500 in this area (63.7 versus 61.6 percent with financials in sustainability reporting).

Board diversity: Medical Devices firms were the only ones only less likely than Communications firms to have board diversity statements including gender and/or racial criteria for selecting director nominees. Only 14.3 percent in the industry did so, compared with 37.2 percent for the S&P 500.

Pay links: None of the Medical Devices firms tied environmental criteria to executive pay (versus 13.3 percent for the S&P 500), and they also lagged in social (21.4 versus 27.2 percent) and ethical (7.1 versus 10.7 percent) criteria.

Points: The Medical Devices industry earned the lowest assessment of any sector, with an average score of 8.9 points. **Covidien** led the sector with 27 points and is profiled below.

Sector Profile: Covidien

Covidien has annual sales approaching $12 billion and manufactures and sells thousands of different products, including disposable medical products, surgical equipment and supplies, nuclear medicine (radiopharmaceuticals) and other pharmaceutical products. Its customers include hospitals, surgical centers and drug manufacturers, among others. Its sustainability report did not use GRI guidelines but its disclosures across its 10-K, annual financial and sustainability reports proved far more extensive than those of its peers. Its disclosures focused on product formulations, namely potential liabilities for defects and product recalls, climate change as it relates to its energy efficiency initiatives, and waste reduction, including its corporate-wide packaging initiative.

An interview with Covidien Chief Financial Officer Matt Harbaugh, reprinted in its sustainability report, underscores the connection the company sees between its sustainability efforts and its bottom line. For example, on waste, he said:

> Every one of our products starts with a chemical process: the reduction of substances using organic solvents. We need to continuously look for ways to improve our chemical processes and packaging to reduce waste. Reducing waste enables us to lower cost of goods sold and deliver more affordable pharmaceutical products to our customers.

Product formulations: "Defects or failures associated with our products could lead to recalls or safety alerts and negative publicity," Covidien warned in its 10-K filing, and "manufacturing flaws, component failures, design defects, off-label uses or inadequate disclosure of product-related information could result in an unsafe condition or the injury or death of a patient." It added, "These problems could lead to a recall of, or issuance of a safety alert relating to, our products and result in significant costs and negative publicity." It further explained, "Due to the strong name recognition of our brands, an adverse event involving one of our products could result in reduced market acceptance and demand for all products within that brand, and could harm our reputation and our ability to market our products in the future." In addition, it said, "adverse events arising from or associated with the design, manufacture or marketing of our products could result in the suspension or delay of regulatory reviews of our applications for new product approvals." It noted it might try to mitigate the effects of product liability risks by voluntarily recalling one of its products following an internal safety review. However, these and other recalls "could disrupt our business and have a material effect on our business, results of operations, financial condition and cash flows." Any of these circumstances, it said, could lead to product liability losses and other litigation liability.

Covidien was embroiled in several cases, including a set of lawsuits filed in several states and federal courts involving its trans-vaginal pelvic mesh products and alleging personal injuries resulting from the implantation of those devices. "Two of our subsidiaries have supplied pelvic mesh product to one of the manufacturers named in the litigation," it said, "and we are indemnifying that manufacturer on certain claims." The litigation included a federal multi-district suit in the United States District Court for the

Northern District of West Virginia and cases in various state courts and in Canada. "Generally, complaints allege design and manufacturing claims, failure to warn, breach of warranty, fraud, violations of state consumer protection laws and loss of consortium claims," but Covidien said it believed it had "meritorious defenses to these claims and are vigorously defending against them." As of September 28, 2012, there were approximately 850 cases pending believed to involve products manufactured by Covidien subsidiaries, and Covidien had recorded a charge of "$46 million for all known pending cases and estimated future claims, net of anticipated insurance recoveries." Covidien also disclosed it had received subpoenas from various authorities surrounding the sales and marketing of several of its products, and it was complying with the requirements in those subpoenas.

Covidien also disclosed in its 10-K that its Mallinckrodt subsidiary continued to be "named as a defendant in personal injury lawsuits based on alleged exposure to asbestos-containing materials." It further explained, "A majority of the cases involve product liability claims, based principally on allegations of past distribution of products incorporating asbestos," while a few others "allege premises liability, based on claims that individuals were exposed to asbestos while on Mallinckrodt's property." As of September 28, 2012, Covidien said, "there were approximately 12,200 asbestos liability cases pending against Mallinckrodt." However, after taking insurance coverage into account, it said it did not believe any future claims or settlements would have "a material effect on our results of operations, financial condition or cash flows."

Its sustainability report's discussion of products occurred under the banner of "quality," and Covidien said it was working toward "establishing and maintaining a Quality Culture at every level of our organization." It noted it created a Quality Improvement Program (QIP) "to provide a singular binding focus on corporate-wide quality, compliance and service improvements." The system was designed to "identify and prioritize product quality areas" and "processes for continuous improvement, from management down to the operator levels, and for two-way communication, so that problems or improvements can be identified and addressed at the appropriate levels of the organization." Covidien said it intended "to be an industry leader in product quality by implementing programs that go beyond what is legally required," because "leadership in quality confers a competitive advantage." It emphasized that its "product testing protocols are designed to challenge devices under simulated use conditions and under stresses that exceed normal or indicated use," and its overarching goal is "to keep quality problems resulting from product design and manufacture to a minimum level, with expectations of zero defects, across all product lines."

Covidien also discussed the FDA Amendment Act of 2007, which allows the FDA to require drug sponsors to implement a Risk Evaluation and Mitigation Strategy or "REMS" program "to ensure the appropriate and safe use of all approved pharmaceuticals." It said as part of its commitment to REMS and other voluntary government initiatives it was "providing documented plans for ensuring the safe use of their products, which may include medication guides for patients, communications plans, elements to assure safe use, assessments and implementation systems." It said these activities were particularly important to Covidien, as it is the largest importer of opiate-based medicinal products in the United States, and it seeks to prevent abuse of these products among end users.

Covidien also said in its sustainability report that it was studying the environmental impacts across the full lifecycle of each of its products and identifying "opportunities for improvement that will protect the environment, benefit stakeholders ranging from our employees to patients and increase the financial viability of our products."

Waste management: Covidien described several waste management initiatives in its sustainability report, including product take-back programs and its packaging sustainability initiative:

- **Product take-back program:** Although the nature of many of its devices prevented recycling at end use, Covidien said it was building "on existing experiences of product take-back" and exploring "further opportunities to expand the number of products that we take back after their use." It added, "Product take-back has the potential to provide not only environmental benefit, but also financial benefit to our customers."
- **Packaging sustainability initiative:** Covidien said it recognized "the value of taking a sustainable approach to packaging both to the environment and to our bottom line." It said it had established a packaging sustainability initiative "to create products that make better use of resources from manufacturing through disposal." The program, it said, focuses "on creating sustainable designs that will support and optimize packaging systems from a lifecycle perspective" and that incorporate "sustainable material selection, continuous manufacturing process improvement, supply chain optimization, and value-added benefit provision to our customers through reduction of materials at the point of disposal or reuse." To achieve this goal, it said, it was interviewing customers to gain "an understanding of hospitals' waste streams and determine the most appropriate packaging disposal/recycling scenarios and solutions." It also was identifying certain materials, such as PVC, that it would aim to eliminate from its packaging.

Covidien also was addressing waste it produced in manufacturing and other operations. It had established a baseline of 31,000 tons of non-hazardous waste and was collecting monthly data to measure progress in moving toward a zero-waste-to-landfill goal.

Climate change: Covidien's focus on climate change was energy use, which it said had the benefit of also "reducing operating costs." It has already completed a "worldwide energy-consumption assessment to document energy usage, including electrical energy and fuels consumption and associated costs" that included "12 energy indicators" and studied "more than 170 locations…including all manufacturing facilities, major distribution centers, research and development centers and major administration and commercial locations."

Its assessment identified "a total of 2.2 billion kilowatt hours of energy, costing an estimated $150 million, and a carbon footprint of 800,000 metric tons." It is now using these data as a baseline for measuring total reductions and performance both at the company and facility level. It said its 15 most energy-intensive sites were all manufacturing facilities, which accounted for 75 percent of its total energy footprint; efforts therefore focus on these locations. Within its manufacturing sites, it also had pinpointed its "most energy-intensive activities, which generally are the same from site to site," and include "steam systems, compressed air systems, Heating, Ventilation and Air Conditioning (HVAC), lighting and chilled water for process, are the focal point of our energy reduction efforts and constitute the majority of our energy projects." It also identified 12 locations as prime candidates for cost-effective renewable energy solutions.

Environmental management: Covidien said in its sustainability report that it has an environmental management system to ensure that it meets or exceeds environmental regulatory standards and performs site audits to monitor workplace accidents, ergonomics, cleanliness and other potential risks. The system incorporates ISO14000 and OHSAS18000 standards. It acknowledged ongoing risks regarding legacy operations, some established more than a century ago. *(See hazardous waste.)* It noted only $21,090 in fines in 2009, only a slight increase from 2008, but far below fines paid in previous years.

Hazardous waste: Covidien disclosed in its 10-K filing that it was "involved in various stages of investigation and cleanup related to environmental remediation matters at a number of sites." One involved a subsidiary, Mallinckrodt, which had owned a chemical manufacturing facility in Orrington, Maine from 1967 until 1982, when it was sold to Hanlin Group. Hanlin sued Mallinckrodt in 1989, "alleging that Mallinckrodt had violated various environmental laws during its operation of the facility." Covidien explained that the claims had been settled in 1991, and Mallinckrodt "agreed to pay certain specific costs for the completion of an environmental site investigation required by the EPA and the Maine Department of Environmental Protection (MDEP)," as well as to "removal of two landfills, capping of the remaining three landfills, installation of a groundwater extraction system and long-term monitoring of the site and the three remaining landfills." However, these plans have been in dispute since, with Mallinckrodt requesting amendments and appeals at various stages and local environmental and civic organizations filing counter claims demanding follow-up remediation studies and other conditions. As of September 28, 2012, Covidien said it "concluded that it was probable that we would incur remediation costs in the range of $169 million to $284 million for the cleanup" of the sites related to the case. Its best estimate was $170 million, of which "$18 million was included in accrued and other current liabilities and $152 million was included in other liabilities on our consolidated balance sheet." Mallinckrodt also is involved in personal injury lawsuits related to asbestos exposure reviewed earlier in this profile.

Covidien acknowledged other remediation projects related to "a variety of activities, including decontamination and decommissioning of radioactive materials and removal of solvents, metals and other hazardous substances from soil and groundwater." Altogether, it believed it would "incur investigation and remedial costs, including asset retirement obligations, of approximately $227 million, of which $19 million is included in accrued and other current liabilities and $208 million is included in other liabilities on our consolidated balance sheet at September 28, 2012." It also noted in its sustainability report that it had established a baseline of creation of 11,000 tons of hazardous waste in 2009 and was working toward reducing this amount, along with regular reporting.

Water use: It also had established a baseline to measure its future water use and consumed 17 million cubic meters of water in 2009.

Employment: Covidien also said in its sustainability report that it was "committed to behavior-based safety," which involved "improving employee behavior to a level where employees recognize risk and assume accountability for their safety and the safety of others in their work areas." To this end, it was implementing "the DuPont STOP behavior-based safety model at two sites and other industry models at six other sites." It was prioritizing facilities in its lowest quintile of performance based on certain metrics: total recordable incident rate (TRIR), lost time incident rate (LTIR) and number of serious injuries.

Ethics: In its 10-K, Covidien noted that the U.S. Foreign Corrupt Practices Act and similar worldwide anti-bribery laws in non-U.S. jurisdictions "generally prohibit companies and their intermediaries from making improper payments to non-U.S. officials for the purpose of obtaining or retaining business." It explained, "Because of the predominance of government-sponsored healthcare systems around the world, most of our customer relationships outside of the United States are with governmental entities and are therefore subject to such anti-bribery laws." It highlighted that it had a compliance program to address these risks.

Nonetheless, it said, "Violations of anti-bribery laws, or allegations of such violations, could disrupt our business and result in a material effect on our results of operations, financial condition and cash flows."

It cited one case predating its separation from Tyco International involving "allegations that certain improper payments were made by Tyco International subsidiaries, including subsidiaries which are now part of Covidien." In September 2012, Tyco settled all outstanding FCPA matters with the SEC and the Department of Justice, including those involving Covidien. The company also noted it was subject to healthcare fraud and abuse regulations that also could adversely affect its results.

Board diversity and pay links: None reported.

• Healthcare

The Healthcare industry—which in this report includes hospital systems and health insurance companies—fell below S&P 500 reporting averages in almost all areas; the sector included no truly integrated reporters. Not surprisingly, it scored third to last in Si2's evaluation and was fifth to last in overall levels of sustainability reporting. Its most frequent disclosures occurred under the banner of employment, which also was the only issue area where it broadly exceeded reporting levels of the S&P 500. Many firms reported competition for talent within the industry and efforts to recruit and retain highly-qualified employees. Its other high-profile issue areas by frequency of mention in disclosure documents were hazardous waste—mostly related to hospital facilities—and ethics. As **McKesson** said in its sustainability report, "We are fortunate…to operate a business with a relatively low environmental impact." This could be the fundamental reason for the lower rates of sustainability disclosures for the sector. *(See table below.)*

On ethics, while the industry was the third least likely to report environmental liabilities and related contingencies (only 11.8 percent versus 38 percent for the S&P 500), it topped the charts for other sustainability-related liabilities with a reporting rate of 76.5 percent, compared with an S&P 500 average of 41.9 percent. The industry logged high numbers of patient liability, Medicare and Medicaid billing, and other pricing and fraud-related lawsuits.

Healthcare	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	0.0%	0.0%				
Conflict Minerals	0.0%	0.0%				
Government Payments	0.0%	0.0%				
Climate Change	5.9%	0.0%	11.8%	5.9%	17.6%	17.6%
Environmental Management	11.8%	5.9%	11.8%	5.9%	23.5%	23.5%
Water Use	0.0%	0.0%	0.0%	0.0%	11.8%	11.8%
Hazardous Waste	35.3%	5.9%	23.5%	5.9%	5.9%	0.0%
Waste Management	11.8%	0.0%	11.8%	5.9%	11.8%	11.8%
Product Formulations	11.8%	5.9%	11.8%	5.9%	11.8%	11.8%
Employment	52.9%	29.4%	47.1%	35.3%	29.4%	29.4%
Human Rights	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ethics	23.5%	0.0%	17.6%	5.9%	17.6%	11.8%

Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.

Areas where this industry group posted the highest percentage among all industries are highlighted in red.

Source: Sustainable Investments Institute (Si2), Washington, DC

Employment: Roughly half of the Healthcare industry reported the typical risks related to employment, such as unionization and related costs associated with collective bargaining agreements and threats of worker actions, as well as competition for employees. However, about a third also reported opportunities, such as programs designed to recruit and retain employees and to control costs. For example:

- **AmerisourceBergen** reported in its 10-K that about 4.5 percent of its 10,300 employees were covered by collective bargaining agreements. It stated that its "relationship with our employees is good." However, it added, "If any of our employees in locations that are unionized should engage in strikes or other such bargaining tactics in connection with the negotiation of new collective bargaining agreements upon the expiration of any existing collective bargaining agreements, such tactics could be disruptive to our operations and adversely affect our results of operations, but we believe we have adequate contingency plans in place to assure delivery of pharmaceuticals to our customers in the event of any such disruptions."

- Meanwhile, **WellPoint** said in its 10-K that it faces "intense competition to attract and retain employees," and that it was "dependent on retaining existing employees and attracting additional qualified employees to meet current and future needs and achieving productivity gains from our investments in technology." It warned that "there can be no assurance that we will be able to attract and retain such employees or that such competition among potential employers will not result in increasing salaries." Further, "An inability to retain existing employees or attract additional employees could have a material adverse effect on our business, cash flows, financial condition and results of operations."
- Similarly, **Express Scripts Holdings** said in its 10-K, "We face significant competition in attracting and retaining talented employees." It added, "We believe that our ability to retain an experienced workforce and our ability to hire additional qualified employees is essential to meet current and future goals and objectives," and it warned, "there is no guarantee that we will be able to attract and retain such employees or that competition among potential employers will not result in increasing salaries." It concluded, "An inability to retain existing employees or attract additional employees could have a material adverse effect on our business operations and our financial results."
- At the same time, in its sustainability report **McKesson** highlighted its benefits and other programs to attract and retain employees, as well as its health and safety performance and related cost mitigation programs. It summarized its package of employee benefits, as well as its wellness program aimed at reducing healthcare costs, increasing productivity and improving the lives of its employees.

  It also reviewed its safety policies and related training programs for employees. The company noted that these programs helped reduce its employee injury costs in its 2012 fiscal year by 4 percent compared to 2011 and by 8.9 percent compared to 2010. It also improved injury reporting timeliness by 20 percent between its fiscal 2012 and 2011 years, "continuing a four-year trend that has reduced lag time by 65 percent," it said. It also had implemented a new safety performance scorecard "to drive safety ownership and accountability through measurement of both leading and lagging indicators" and had "expanded awareness and communication resources to better enable consistent implementation of programs and processes and heighten employee engagement," as well as improved operating procedures "to clarify regulatory roles and responsibilities and improve safety partnerships with contractors and vendors."

  McKesson also noted the importance of its diversity programs, which it said were "good for business." It explained, "Fostering and embracing cross-cultural competence helps us execute our business strategies, innovate and maintain our competitive edge, and attract the best and brightest employees." Furthermore, it said, diversity "allows us to reflect and respond to a diverse customer base, keep pace with changing demographics, improve productivity, creativity and quality, improve teamwork and decision making, and meet the requirements of our customers." It said it believed its employee population reflected "balanced gender and racial diversity" and that it had adopted a diversity scorecard to continue to monitor its progress in this area. It also had implemented an employee feedback survey that assessed elements of "workplace inclusion" with continued improving marks in this area.

- **Tenet Healthcare** also highlighted an employee survey effort in its sustainability report, which it said offered "an objective snapshot of employee feedback about their experience at Tenet" and helped the company gauge its employee programs and retention efforts. It noted that 68 percent of its employees participated in the survey in 2011, with 75 percent giving a favorable rating to the company's engagement efforts, "similar to those of previous years and to the national health care norm," the company noted. It also said 83 percent of respondents "answered favorably to the statement, 'Overall, I am satisfied with Tenet as a place to work.'" Tenet said the rating placed it in the upper range for results for hospital companies, which varied from the low 60s to the high 80s.

Ethics: As noted above, the Healthcare industry was the most likely to report non-environmental, sustainability-related liabilities—more than three-quarters in all did so. Many of these dealt with patient claims in liability cases, as well as Medicare and Medicaid fraud allegations. Consequently, ethics was an area many companies also talked about outside of their discussions of lawsuits and related contingencies. Nearly a quarter did so. For example:

- **Tenet Healthcare** assured investors in its 10-K that its ethics and compliance department maintained a "multi-faceted, values-based ethics and compliance program, which is designed to (1) help staff in our corporate and Conifer offices, hospitals, outpatient centers and physician practices meet or exceed applicable standards established by federal and state laws and regulations, as well as industry practice, and (2) monitor and raise awareness of ethical issues among employees and others, and stress the importance of understanding and complying with our Standards of Conduct." It noted that its ethics and compliance department "operates with independence" with "its own operating budget…authority to hire outside counsel…" and access [to] "any Tenet document and personnel" for interviews. It also had a no retaliation policy for employees reporting potential ethical lapses.

  In addition, Tenet's chief compliance officer reports directly to the quality, compliance and ethics committee of its board, it said. Its board committee has adopted a new "Quality, Compliance and Ethics Program Charter intended to continue certain of the safeguards," including "responsibilities with regard to participation in federal health care programs…maintaining the highest ethical standards among all employees, officers and directors, physicians practicing at Tenet facilities and contractors that furnish health care items or services…" and "valuing our compliance with all state and federal laws and regulations as a foundation of our corporate philosophy." It regularly audits its ethics program, too.

  Notwithstanding these efforts, Tenet had numerous lawsuits and related contingencies to report to its shareholders, although Tenet cautioned that this was typical for Healthcare companies which are subject to "numerous investigations by various governmental agencies." These included:

  - Tenet said it had notified the Office of Inspector General (OIG) of the U.S. Department of Health and Human Services in 2007 that it "had completed a preliminary review of admissions to our inpatient rehabilitation unit at South Fulton Medical Center that suggested further review was necessary to determine whether the hospital had received Medicare overpayments reportable under our now-expired corporate integrity agreement." It said that the U.S. Department of Justice (DOJ), which was coordinating its review with OIG, had requested additional information regarding this matter in 2009, as the government's review had now expanded to include all of Tenet's "active and divested inpatient hospitals and units for the period May 15, 2005 through December 31, 2007."

Following two years of discussions, Tenet reached an agreement with the government in December 2011 "in principle on potential settlement terms, including a potential settlement amount, all of which remains subject to final approval within the DOJ." It said it had "increased its reserve by approximately $23 million (approximately $12 million of which related to continuing operations and approximately $11 million of which related to discontinued operations) in the three months ended December 31, 2011 to reflect its current estimate of our probable liability for this matter."

- Tenet also reported that the DOJ, in coordination with the OIG, had "contacted a number of hospitals requesting information regarding their billing practices for kyphoplasty procedures" used to "treat pain and related conditions associated with certain vertebrae injuries," including seven of its own hospitals. The government is reviewing "the appropriateness of Medicare patients receiving kyphoplasty procedures on an inpatient as opposed to an outpatient basis" and the higher costs associated with the inpatient procedures. The investigation is ongoing.
- Tenet also disclosed that the fiscal intermediary for its Florida Medical Center began a probe in 2009 "of the group billing practices of that facility's partial hospitalization program, a psychiatric treatment program that had the capacity to treat 15 patients on an outpatient basis." Tenet said it voluntarily shared its findings with the OIG later that year, which remain part of an ongoing OIG review.
- Tenet said that in 2010 the DOJ "issued a civil investigative demand pursuant to the federal False Claims Act to one of our hospitals," requesting "information regarding Medicare claims submitted by our hospital in connection with the implantation of implantable cardioverter defibrillators (ICDs)" during the period 2002 to 2010. Tenet says that the government "is seeking this information to determine if ICD implantation procedures were performed in accordance with Medicare coverage requirements," and that it has "since notified us that it also intends to review records and documents from 32 of our other hospitals…" Based on its knowledge of the cases, Tenet said it had recorded reserves of approximately $50 million in aggregate by the end of 2011.
- Tenet acknowledged that it had agreed to settle in 2011 "two previously reported class action lawsuits relating to alleged injuries suffered by persons at Memorial Medical Center, one of our former New Orleans area hospitals, following Hurricane Katrina for a $25 million cash payment, which was fully reserved at March 31, 2011." It added, "The court approved 6the final settlement agreement at a fairness hearing held in October 2011." It reached another agreement in principle in 2012"to settle for approximately $12 million a similar purported class action lawsuit filed on behalf of persons allegedly injured following Hurricane Katrina at Lindy Boggs Medical Center (another one of our former New Orleans area hospitals)." In addition, it noted, "we are defendants in 17 individual Hurricane Katrina-related lawsuits filed in the Civil District Court for the Parish of Orleans," but trial dates hadn't been set yet.

  In general, Tenet said, "the plaintiffs allege that the hospitals were negligent in failing to properly prepare for Hurricane Katrina by, among other things, failing to evacuate patients ahead of the storm and failing to have properly configured emergency generator systems." The plaintiffs seek unspecified damages and additional claims.
- Following a trial in the Superior Court in Los Angeles County, California, "a jury awarded the plaintiff in the matter of *Rosenberg v. Encino-Tarzana Regional Medical Center and Tenet Healthcare Corporation* compensatory damages in the amount of approximately

$2.4 million" in 2011. The plaintiff, Tenet said, "alleged that she was assaulted in April 2006 by a hospital employee while a patient at Tarzana Regional Medical Center (a hospital we have since divested)." The jury also awarded the plaintiff a $65 million verdict against the former hospital for punitive damages. Tenet says it intends "to vigorously contest the verdicts in this case," but it had recorded a reserve of approximately $6 million in discontinued operations for this case.

Tenet stated in its sustainability report, "Because health care is a highly-regulated industry, it is important that we maintain a robust ethics and compliance program to educate our workforce and to prevent, detect and correct compliance problems." It reviewed its ethics and compliance program as it did with its 10-K, emphasizing that it worked "diligently to ensure our employees understand and comply with applicable laws and policies and adhere to the highest standards of ethics and integrity."

- In similar fashion, **Cigna** stated in its 10-K, "The Federal government has made investigating and prosecuting health care fraud and abuse a priority," and "fraud and abuse prohibitions encompass a wide range of activities, including kickbacks for referral of members, billing for unnecessary medical services, improper marketing, and violation of patient privacy rights." It added, "The regulations and contractual requirements in this area are complex and subject to change and compliance will continue to require significant resources," as well as entail "risks related to litigation, regulatory audits and investigations." Cigna noted that it "is frequently the subject of regulatory market conduct and other reviews, audits and investigations by state insurance and health and welfare departments, attorneys general, The Centers for Medicare and Medicaid Services (CMS) and, the Office of Inspector General (OIG)."

  Cigna said it regularly performed audits to mitigate these risks. It disclosed that the State of New York Attorney General Andrew M. Cuomo announced in 2008 "an industry-wide investigation into the use of data provided by Ingenix, Inc., a subsidiary of UnitedHealthcare, used to calculate payments for services provided by out-of-network providers." Cigna said it "received four subpoenas from the New York Attorney General's office in connection with this investigation and responded appropriately." In connection with an industry-wide settlement with New York in 2009, Cigna "contributed $10 million to the establishment of a new non-profit company that now compiles and provides the data formerly provided by Ingenix." However, Cigna also was named as a defendant "in a number of putative nationwide class actions asserting that due to the use of data from Ingenix, Inc., the Company improperly underpaid claims, an industry-wide issue." All of the class actions, Cigna reported, "were consolidated into *Franco v. Connecticut General Life Insurance Company et al.*, which is pending in the United States District Court for the District of New Jersey." Cigna noted that the plaintiffs had lost their suit but then filed an appeal. Cigna says it continues to deny the allegations associated with the litigation and will continue to "vigorously defend itself in these matters."

- **Cardinal Health** in its 10-K revealed that the Drug Enforcement Agency (DEA) had "issued an order to show cause and immediate suspension of our Lakeland, Florida distribution center's registration to distribute controlled substances" in February 2012. The DEA "asserted that we failed to maintain required controls against the diversion of controlled substances," Cardinal said. In turn, Cardinal Health "filed a complaint and motion for a temporary restraining order in the U.S. District Court for the District of Columbia to enjoin the suspension of the Lakeland facility's registration," and "the court granted the temporary restraining order restoring the DEA registration but denied our motion for a preliminary injunction on February 29, 2012, and the immediate suspension was reinstated." It appealed the decision, but it in the interim entered into a settlement agreement with the DEA. Under the agreement, it said, its suspension of its Lakeland facility's suspension will remain in effect until May 15, 2014, and Cardinal agreed to "enhance certain procedures designed to detect and prevent the diversion of controlled substances." Cardinal said that the settlement did not preclude "the possibility of the U.S. Department of Justice seeking civil fines" in the case, and that it was too early for it "to reasonably estimate a range of possible loss" related to the matter.

Cardinal Health also disclosed that the West Virginia Attorney General filed complaints against fourteen pharmaceutical wholesale distributors, including Cardinal Health, in the Circuit Court of Boone County, West Virginia, in June 2012, alleging "that the distributors failed to maintain effective controls to guard against diversion of controlled substances in West Virginia, failed to report suspicious orders of controlled substances in accordance with the West Virginia Uniform Controlled Substances Act, were negligent in distributing controlled substances to pharmacies that serve individuals who abuse controlled substances, were unjustly enriched by such conduct, violated consumer credit and protection laws, created a public nuisance, and violated state antitrust laws in connection with the distribution of controlled substances." Cardinal said it also was too early in this case to "reasonably estimate a range of possible loss."

In its sustainability report, it said, "As the leading provider of products, services and technologies supporting the healthcare industry, Cardinal Health and our employees worldwide take very seriously our responsibility to comply with all applicable legal requirements and to conduct business responsibly and with integrity." It added, "Our customers, shareholders and suppliers count on it, and our company's continued success depends on it." It reviewed its ethics code, related auditing and controls to mitigate risks in this area.

Hazardous waste: An issue discussed by about a third of the Healthcare companies, hazardous waste disclosures for the industry centered on cleanup activities related to laboratories and hospital facilities, as well as for legacy manufacturing operations. For example:

- **McKesson** said in its 10-K filing that its "operations are subject to regulations under various federal, state, local and foreign laws concerning the environment, including laws addressing the discharge of pollutants into the air and water, the management and disposal of hazardous substances and wastes and the cleanup of contaminated sites." It warned, "We could incur substantial costs, including cleanup costs, fines and civil or criminal sanctions and third-party damage or personal injury claims, if in the future we were to violate or become liable under environmental laws." However, it also assured that it is "committed to maintaining compliance with all environmental laws applicable to our operations, products and services and to reducing our environmental impact across all aspects of our business," as affirmed through its "environmental strategy and sustainability program."

  It noted that many of its contingencies are for cleanup and remediation related to chemical distribution operations it sold in 1987. It said it had determined that the probable loss associated with the eight sites is $7 million to be paid out "between April 2012 and March 2032." In addition, McKesson disclosed that it had been designated as a responsible party under the Superfund law for environmental assessment and cleanup costs as the result of its alleged disposal of hazardous substances at another 13 sites, which it has estimated will cost it $1 million.

- Meanwhile, **St. Jude Medical** disclosed in its 10-K, "Our operations are subject to environmental, health and safety laws and regulations concerning, among other things, the generation, handling, transportation and disposal of hazardous substances or wastes, particularly ethylene oxide, the cleanup of hazardous substance releases, and emissions or discharges into the air or water." It did not disclose any contingencies for potential liabilities in these areas.

- Similarly, **Laboratory Corporation of America** noted in its 10-K, "The Company is subject to licensing and regulation under federal, state and local laws and regulations relating to the protection of the environment and human health and safety and laws and regulations relating to the handling, transportation and disposal of medical specimens, infectious and hazardous waste and radioactive materials," and all of its "laboratories are subject to applicable federal and state laws and regulations relating to biohazard disposal of all laboratory specimens." Laboratory Corporation said it generally outsources the disposal of biohazards to a third party.

Other environmental disclosures: As noted earlier, the Healthcare industry disclosed far less than most sectors across the sustainability issues covered by this study. However, there were a few standouts that offered some monetary values for investments and cost savings tied to sustainability. For example:

- **McKesson** said in its sustainability report that its "commitment to environmental sustainability focuses on both reducing our impact on the planet and ensuring our company's long-term financial viability." Examples of its efforts in these areas were:
  - By using "energy efficient equipment from Dell, McKesson reduced energy use by 327,411 KWh or $39,358."
  - The company also described its implementation of an "Adaptive Work Environment (AWE) Program," which is "a version of a flexible work environment that is offered by most *Fortune* 500 companies." AWE at McKesson is "based on the following three trends: (a) most employees do not spend more than 60 percent of their time in the office at their dedicated workspace, (b) the need for collaboration (and space that supports it) has grown in importance, and (c) technology has improved to the point where employees can and wish to work from anywhere." An AWE environment at McKesson, it said, "promotes a more open workspace, allowing employees to engage in impromptu meetings, and makes use of natural light." Since many employees travel or periodically work from other locations (i.e., home, customer locations, and other offices), McKesson said flexibility and mobility were key.

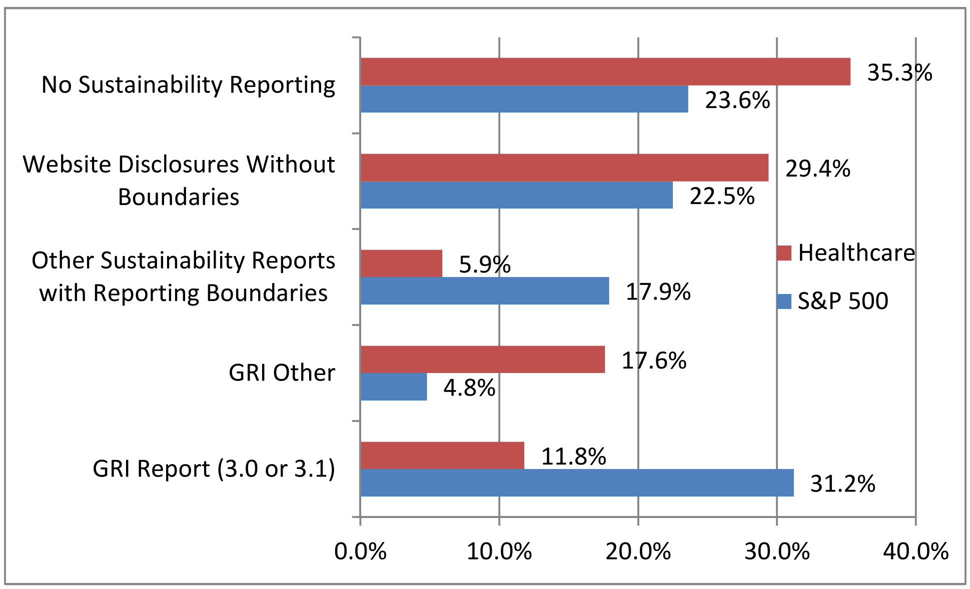
    So, McKesson offered a wide variety of flexible meeting spaces and non-dedicated seating options, reducing the need for traditional dedicated office workspace. The AWE initiative, McKesson noted, "can grow our business without expanding our real estate footprint." Another perk, it said, is that the program reduces costs and its carbon footprint: "fewer buildings result in fewer emissions" and eliminating commuting also reduces GHG output. By the end of its 2012 fiscal year, McKesson said it had "implemented AWE programs in 12 facilities and saved or avoided costs of approximately $4 million." McKesson also was using Energy Star Portfolio management tools to further reduce its carbon footprint in its offices.
  - During 2012, McKesson said it "continued to bring more fuel-efficient vehicles into the fleet, replacing 6-cylinder vehicles with 4-cylinder vehicles for the U.S. Pharmaceutical sales fleet, an initiative started in fiscal year 2010." It said that the "transition of more fuel-efficient vehicles has increased the miles per gallon and has thus reduced the amount of fuel consumed by 7 percent as compared to 2010, and reduced the annual CO_2 emissions by 7 percent." The program also is saved McKesson $726,413 in its 2012

fiscal year in fuel costs, although it did not offer a return on investment for the vehicle purchases.

- McKesson said it also was aggressively looking at business travel and using its TelePresence system to promote video and teleconferencing whenever feasible. It said the system saved it $4 million in travel costs during its fiscal 2012 year. (Cost savings were calculated by taking the total numbers of employees who avoided travel multiplied by the average cost per trip, including airfare and hotel.) The program, at the same time, was reducing McKesson's carbon footprint, it noted.

- **Tenet Healthcare** in its sustainability report said that hospitals "consume more than eight percent of the total energy in the United States and generate nearly eight percent of the country's carbon dioxide emissions, according to the U.S. Department of Energy Information Agency." Therefore, it also was focusing on energy efficiency initiatives. In 2011, it said it invested $75 million to make its buildings more energy efficient, "including replacement of roofs, air handling units and chillers" Tenet said its strategy with these investments "is to incorporate economically viable energy efficiencies into all capital projects." However, it also did not offer an expected or actual return on its investments in this area.

Sustainability reporting: Healthcare companies underreported in the S&P 500 in this category by almost 12 percentage points. They also were far less likely to use the GRI standard with less than 30 percent doing so, compared with 38 percent for the S&P 500. *(See bar chart.)*



Financials in sustainability reporting: For those issuing sustainability reports, 27.3 percent of the Healthcare sector offered consolidated or partial financials and another 9.1 percent gave some sort of economic analysis of the impact of their operations alongside sustainability reporting. The sector was the fifth least likely to include financials in sustainability reporting.

Board diversity: Bucking its other sustainability trends, Healthcare companies were the second most likely to include board diversity statements with references to gender and/or race as factors in director nominations in their proxy filings.

- For example, **Cerner** said in its proxy statement, "The NG&PP Committee and the Board believe that a diverse board leads to improved Company performance by encouraging new ideas, expanding the knowledge base available to management and fostering a boardroom culture that promotes innovation and vigorous deliberation." It added, "Thus, our Director nomination process is designed to consider diversity among the many factors that the Board considers in evaluating prospective nominees. Diversity, as considered by the NG&PP Committee, can encompass many attributes, from business experience, to substantive expertise, to background, to age, gender and race. The goal of this process is to assemble a group of Board members with deep, varied experience, sound judgment and commitment to our success."

Pay links: Healthcare fell below the S&P 500 averages for links between executive pay and environmental (none versus 13.3 percent), social (23.5 versus 27.2 percent) and ethical (5.9 versus 10.7 percent) criteria.

- **Quest Diagnostics** was one company that had links. It tied annual bonus incentives for several named executive officers to "workforce diversity" and "employee satisfaction," among other factors.
- **Tenet Healthcare** was another, linking annual incentive pay to, among other things, "people" initiatives—weighted at 8 percent of total incentive pay awards—and "regulatory compliance"—accounted for a potential 2 percent of the total potential annual incentive.

Points: Third to last among industries, Healthcare companies earned an average of 9.8 points using Si2's composite assessment method. The top scoring firm, **Humana**, earned 37 points; it is profiled below.

Sector Profile: Humana

Humana is the largest Medicare provider in the United States and among the biggest health insurers, with more than 11 million people on its various plans. It provides Medicare Advantage plans and prescription drug coverage to more than 4.5 million members throughout the United States. It also administers managed care plans for other government programs, including Medicaid plans in Florida and Puerto Rico and TRICARE, a program for military personnel, in 10 southern states.   In addition, Humana offers commercial health plans and specialty coverage for life, dental and vision, as well as health management services, and it operates outpatient care clinics. As an insurer, it did not have the environmental liabilities disclosed by many of the hospital and laboratory companies in the Healthcare sector, although it did have a few related to its clinics. Instead, its disclosures focused on climate-related impacts of its offices and energy efficiency efforts, as well as ethical concerns and employment. Its sustainability report used GRI's 3.1 guidelines and self-declared a C reporting level.

Humana's Chairman of the Board and CEO Michael B. McCallister describes the company's sustainability strategy as a three-pronged approach based on happy people, healthy planet, and health performance:

> Through our Healthy People pillar, Humana engages our stakeholders to live healthier lives. The Humana Foundation, our philanthropic arm, is an integral component of Healthy People and is instrumental in supporting nonprofit organizations that promote healthy lives and healthy communities. Healthy Planet reflects our commitment to environmental sustainability, with a focus on efforts to minimize our environmental footprint. Healthy Performance captures our commitment to ethical practices in the pursuit of business excellence.

Ethics: In its 10-K filing, Human disclosed several lawsuits:

- *Sacred Heart Health System, Inc., et al. v. Humana Military Healthcare Services Inc.*, a class action filed in 2007 in the U.S. District Court for the Northern District of Florida, alleges that "Humana Military breached its network agreements with a class of hospitals in six states, including the seven named plaintiffs, that contracted for reimbursement of outpatient services provided to beneficiaries of the [Department of Defense] TRICARE health benefits program." The case hinges on the accusation that Humana Military breached its network agreements when it failed to reimburse the hospitals based on negotiated discounts for non-surgical outpatient services, a claim Humana denies. The plaintiffs seek damages related to the breach of contract, litigation costs and attorneys' fees. The class, originally certified by the courts, was decertified on appeal, but it has been joined by 33 additional hospitals and is pending trial.

- A similar case, *Southeast Georgia Regional Medical Center, et al. v. Humana Military Healthcare Services, Inc.*, was filed in 2009. The plaintiffs also sought class certification in this case, but since dropped their request. The case went to arbitration and was awarded in favor of the plaintiffs, although the amount of damages has not been set.
- Humana also disclosed that it hired outside counsel to help it with "an ongoing internal investigation" of "the relationships between certain of our Florida-based employees and providers in our Medicaid and/or Medicare networks, practices related to the financial support of non-profit or provider access centers for Medicaid enrollment and related enrollment processes, and loans to or other financial support of physician practices." Humana has voluntarily reported to the Centers for Medicare and Medicaid Services (CMS), the U.S. Department of Justice, and the Florida Agency for Health Care Administration its findings and proposed remedial actions, which are still under review, and Humana does not rule out government action or litigation in the matter. Attached to this matter, an individual filed a *qui tam* suit in December 2010 against Humana, several of its health plan subsidiaries, and certain other companies that operate medical centers in Miami-Dade County, Florida, seeking reward for cooperation with their prosecution.
- On January 6, 2012, the Civil Division of the United States Attorney's Office for the Southern District of Florida advised Humana's legal counsel "that it is seeking documents and information from us and several of our affiliates relating to several matters including the coding of medical claims by one or more South Florida medical providers, and loans to physician practices."

In its sustainability report, Humana noted that it has "had a formalized ethics code since 1995 and a commitment to ethics since its founding in 1961." It also summarized its employee induction and annual training program for employees on ethics, as well as its 24-hour ethics help line for employees to ask questions and report issues.

Climate change: In its sustainability report, Humana acknowledges that "climate change poses a serious challenge to our natural environment and may threaten the health and well-being of those we serve." To address this risk, Human described its energy efficiency, including building design, initiatives for its offices, as well as alternative commuting programs. In particular, Humana said in it is "developing an energy savings program that will improve interior work environments for associates, reduce energy usage and reduce our carbon footprint."

The program's first phase, which started in 2012, includes reducing annual energy consumption and greenhouse gas emissions by 10 percent (from a 2009 baseline) across Humana's properties and cutting annual energy expenses by more than $1 million (also by 10 percent using a 2009 baseline). The first phase targets one-third of the properties Humana owns and targets the properties with the largest energy cost per square foot and variance from industry kilowatt hours. Humana plans to make improvements to heating, ventilation and air conditioning (HVAC), as well as to install renewable energy applications at some of the sites. Humana will work with its suppliers and contractors as part of this process to pinpoint other energy savings, as well as greenhouse gas emissions reductions. It said that it had "enlisted four vendors in 2011 to assist in maximizing the efficiency and decreasing the waste of our facilities and operations." Each has since helped Humana collect data on its facilities and track progress toward goals. For example, its architectural services firm is working on schematic designs, construction solutions and related standards, including LEED, while its janitorial services firm is helping with energy efficiency efforts, as well as waste management. Real-estate and leasing services, portfolio and project management, and mailroom and copy center services companies also are assisting with the effort.

Humana also is working to certify its facilities with the Department of Energy's and the EPA's Energy Star program, and 14 of the 35 sites it owns, including its headquarters, are certified by Energy Star. (To qualify for certification, a building must score in the top quarter of the EPA's National Energy Performance Rating System.) An example of a transformation it has undertaken to achieve Energy Star certification Humana offered was its office in De Pere, Wisconsin. Originally constructed in 1981 and spanning almost 360,000 square feet, the facility began getting retrofits in 1991, including lighting upgrades to compact florescent bulbs and LED lights, LED exit signs, occupancy lighting sensors, daylight controls and more efficient fans and motors. Humana also installed higher efficiency chillers and a new gas-fired water heater in the facility. These efforts improved its energy efficiency 32 percent and its score in the EPA ratings system went from 81 to 100, earning it an Energy Star rating in 2009.

Humana also said it is working on the energy efficiency of its data centers. In 2004, it decided to replace its 60-year-old Louisville, Kentucky, data center with a new facility. "It was designed with careful attention to power-usage effectiveness (also known as PUE, a metric for energy efficiency) and best practices in HVAC systems, power-cooling areas and IT infrastructure," Humana said, and it "achieved significant cost-and-energy savings through fine-tuning the systems," including thermostat and humidity settings. It also installed motion-activated light controls. Humana has another data center in Louisville, and the two are the largest consumers of energy in its property portfolio, so Humana continues to focus on efforts here for improvements in its overall carbon footprint.

Waste management: In its sustainability report, Humana also said it was reviewing its waste streams to reduce waste and its overall carbon footprint and working closely with suppliers in this effort.

Hazardous waste: In its 10-K, Humana acknowledges that it is subject to federal, state, and local laws and regulations "relating to the protection of human health and the environment, including those governing the management and disposal of infectious medical waste and other waste generated at our subsidiary Concentra's occupational healthcare centers and the cleanup of contamination." It cautioned, "Although we believe that our environmental practices, including waste handling and disposal practices, are in material compliance with applicable laws, future claims or violations, or changes in environmental laws, could have a material adverse effect on our results of operations, financial position or cash flows."

Employment: Humana's labor-related disclosures focused on diversity efforts. It highlighted its outreach to the lesbian, gay, bisexual and transgender (LGBT) community, which it said represents 10 percent of the population. Citing research from the Human Rights Campaign (HRC) that half of LGBT employees (51 percent) hide their identity at work because they either feel uncomfortable or are afraid of making others feel uncomfortable, Human described its creation of an LGBT network resource group to help it overcome these barriers. It said that it wants to integrate its learning into a business strategy "to produce innovative policies and products that cater to the needs of the [LGBT] community…"

Product formulations: In a pilot program described in its sustainability report, which Humana said symbolized "a focused investment in a strategic issue that makes a positive impact on the community while aligning with Humana's business strategy," Humana designed an initiative "to help communities adopt healthy habits and lead healthier lives." It is working in partnership with Microclinic International, a nonprofit public health organization that designs and helps activate community health programs, the Bell County Health Department and Citizen Effect, a nonprofit organization that engages citizen philanthropists to sustain the program. Launched in 2011 in Bell County, Kentucky, the program provided resources to the Bell County Health Department offices in the communities of Middlesboro and Pineville and employed six local staff to target four preventable diseases—hypertension, heart disease, cancers and lung disease, which account for 50 percent of deaths—by empowering people to change the three key risk factors—diet, exercise and smoking—that can trigger these diseases. Humana said its initial evaluation of the data collected during the pilot demonstrated that it was a "major success."

Board diversity: "Although the Board and the Nominating & Corporate Governance Committee do not have a policy with regard to the consideration of diversity in identifying director nominees," Humana's proxy statement says, "the director nomination process is designed to ensure that the Board includes members with diverse backgrounds, including race, ethnicity, gender, skills and experience, including appropriate financial and other expertise relevant to the Company's business." It closed, "The goal of this process is to assemble a group of board members with deep, varied experience, sound judgment, and commitment to the Company's success."

Pay links: None.

• Pharmaceuticals and Biotechnology

More likely to report in comparison to the S&P 500 in the areas of environmental management, water use, hazardous waste, product formulations and ethics, Pharmaceutical and Biotechnology companies edged out the broader index by a point in Si2's assessment exercise, with an average of 18.5 points. However, the sector lagged some in sustainability reporting, with 70 percent doing so compared with 76.4 percent for the S&P 500. The industry had one integrated reporter, **Pfizer**. Among Pharmaceutical and Biotechnology firms, hazardous waste was the top reporting area, followed by environmental management, product formulations, employment and ethics. *(See table below.)*

The sector reported diverse sustainability challenges—complicated manufacturing processes involving at times toxic chemicals and byproducts, lawsuits related to product formulations and ethically questionable dealings with Medicare and other government-sponsored programs, and attracting and retaining large numbers of highly-skilled employees. The industry's rates of reporting environmental and other sustainability liability and related contingency disclosures beat S&P 500 averages on both counts and illustrated the product issues confronting many in the sector. Altogether, 45 percent of Pharmaceutical and Biotechnology companies reported environmental liabilities and contingencies, more than the 38 percent average for the S&P 500, and 55 percent of them disclosed other sustainability liabilities, again greater than the 41.9 percent average for the broader index and the fourth highest rate overall.

Pharmaceuticals and Biotech	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	0.0%	0.0%				
Conflict Minerals	0.0%	0.0%				
Government Payments	0.0%	0.0%				
Climate Change	25.0%	0.0%	30.0%	15.0%	45.0%	35.0%
Environmental Management	50.0%	0.0%	45.0%	5.0%	50.0%	45.0%
Water Use	5.0%	5.0%	15.0%	15.0%	45.0%	35.0%
Hazardous Waste	80.0%	5.0%	45.0%	10.0%	40.0%	30.0%
Waste Management	15.0%	0.0%	20.0%	10.0%	50.0%	50.0%
Product Formulations	40.0%	15.0%	35.0%	25.0%	60.0%	60.0%
Employment	40.0%	5.0%	35.0%	20.0%	60.0%	60.0%
Human Rights	0.0%	0.0%	0.0%	0.0%	15.0%	10.0%
Ethics	40.0%	0.0%	30.0%	0.0%	35.0%	30.0%

Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.
Areas where this industry group posted the highest percentage among all industries are highlighted in red.
Source: Sustainable Investments Institute (Si2), Washington, DC

Hazardous waste: Eight out of 10 in the sector had something to say about risks related to hazardous wastes and many of these disclosures overlapped with talk about environmental management systems. For example:

- **Bristol-Myers Squibb** said in its 10-K that its "facilities and operations are subject to extensive U.S. and foreign laws and regulations relating to environmental protection and human health and safety, including those governing discharges of pollutants into the air and water; the use, management and disposal of hazardous, radioactive and biological materials and wastes; and the cleanup of contamination." It named the U.S. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) among them. It added, "Pollution controls and permits are required for many of our operations, and these permits are subject to modification, renewal or revocation by the issuing authorities."

The company noted that it had an environment, health and safety group that monitors its operations for compliance with these requirements, and it incurred capital charges of $16 million in 2011, $15 million in 2010 and $34 million in 2009 related to environmental compliance. "Although we believe that we are in substantial compliance with applicable environmental, health and safety requirements and the permits required for our operations," it cautioned shareholders, "we nevertheless could incur additional costs, including civil or criminal fines or penalties, clean-up costs, or third-party claims for property damage or personal injury, for violations or liabilities under these laws." It noted that its oldest facilities, where it or former operators may have generated, used stored or disposed of hazardous substances, are most at risk, and it disclosed it was involved in investigation and remediation at 14 current or former facilities and was identified as a potentially responsible party at a total of 24 sites.

- Similarly, **Pfizer** in its 10-K also noted regulations and laws affecting it and said it was undertaking cleanup of contamination of past industrial activity at several sites. It had capital expenditures overall related to environmental compliance of $34 million and other environmental expenditures of $145 million. "While we cannot predict with certainty future capital expenditures or operating costs for environmental compliance, including compliance with pending and potential legislation and potential regulation related to climate change," it assured shareholders, "we have no reason to believe they will have a material effect on our capital expenditures or competitive position."

  It also noted that it has environmental contingencies tied to legacy operations of Wyeth it acquired of $570 million, as well as another $1.3 billion in contingencies for legal matters, including product liability, patent, commercial, environmental, antitrust matters and government investigations related to Wyeth. Pfizer also had asbestos liabilities associated with its Quigley subsidiary, which it acquired in 1968. Quigley sold products containing small amounts of asbestos until the early 1970s. Pfizer disclosed it reached a settlement agreement in March 2011 with 40,000 claimants totaling $819 million split into two installments—one in June 2011 and another in April 2013—along with a final payment for legal fees and expenses. In another settlement related to the case, Pfizer and Quigley will pay $405 million to a trust over a 10-year period. Pfizer also has asbestos claims pending connected with the purchase of American Optical from Warner Lambert, although Pfizer said it was indemnified by Warner Lambert for these, as well as for products sold by another subsidiary, Gibsonburg Lime Products.

Environmental management: Half of the sector addressed environmental management, although most disclosures mimicked or otherwise greatly overlapped disclosures of hazardous waste risks. For example:

- **Thermal Fisher Scientific** said in its 10-K that it was subject to various environmental laws and regulations—including the Toxic Substances Control Act, the Resource Conservation and Recovery Act, the Clean Air Act, the Clean Water Act, the Safe Drinking Water Act, and the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), as well as state regulations. It also noted that its operations handling, manufacture, use and/or sell substances ""that are or could be classified as toxic or hazardous materials," so its operations had some "inherent" risk of environmental harm. Three of its properties were under remediation, including a Superfund site. It accrued liabilities for these matters totaling $22 million.
- Similarly, **Merck** assured shareholders in its 10-K that "there are no compliance issues associated with applicable environmental laws and regulations that would have a material adverse ef-

fect on the Company." Nonetheless, Merck was involved in cleaning up environmental contamination and reported expenditures and liabilities in this area of $25 million in 2011, $16 million in 2010, $17 million in 2009, and $93 million in the aggregate for the years 2012 through 2016. It has accrued a total reserve of $133 million. It also noted it had an environmental management system to assess these risks and manage costs.

- **Allergan** described in its sustainability report its Environment, Health and Safety (EHS) Achievement Program involving three levels of certification with several requirements, training materials, standard operating procedures and compliance checklists. The first level represents "compliance" and the ability to "identify and control hazardous materials and hazardous operations." Allergan requires facilities to conform to this standard within one year of acquisition. The second level is equated with "prevention" and is associated with several additional steps to prevent noncompliance and other environmental hazards, which is expected within two to three years of acquisition. Within three to four years, Allergan expects facilities to achieve "leadership," which includes the ability to outperform on EHS issues and achieve ISO 14001 certification or an equivalent standard. Allergan said it has third parties audit its facilities to define each site's level of achievement.

Climate change: Only addressed by a quarter of the Pharmaceutical and Biotechnology firms in 10-K statements and 45 percent in annual financial reports and sustainability reporting, the sector stood out for attaching dollar figures to investments and savings associated with those savings when talking about initiatives to address climate change. For example:

- **Bristol-Myers Squibb** reviewed its 2015 sustainability goals in its annual report, including a pledge to reduce energy use and greenhouse gas emissions by 15 percent. It said its energy managers focused on technologies to help achieve these goals, with more than 150 energy projects in the pipeline or completed worldwide in 2011 with a projected impact to reduce approximately 21,000 tons of CO2 on an annualized basis and save more than $3 million in energy costs for the year.
- **Eli Lilly** said in its sustainability report that the cumulative efforts of its energy efficiency efforts from 2008 through 2011 yielded a cut of 240,000 metric tons of carbon dioxide-equivalent emissions and save the company $32 million. Since 2006, Eli Lilly said it had "conducted 29 energy assessments at our energy-intensive sites" to achieve the savings. At several facilities, it noted, it had begun to "use renewable energy to diversify our energy sources and decrease GHG emissions" and to implement cogeneration applications, involving the use of an on-site engine to generate electricity as well as recovering usable heat.
- **Johnson & Johnson** described in its sustainability report a $40 million per year capital funding budget to reduce energy use and greenhouse gas emissions. In the past seven years, it has approved 112 energy reduction projects and completed 94 of them, which has yielded reductions in CO2 emissions of 138,195 metric tons per year. So far it has spent $208 million on these efforts, generating $39 million in annual cost savings, excluding grants and rebates.
- Energy efficiency also was central to **Pfizer**'s efforts to reduce the impacts of climate change. It detailed in its sustainability report various projects, in addition to its goal to use "renewable energy technology where it makes business and environmental sense" and to "green" its fleet of vehicles. Between 2008 and 2012 it achieved $85 million in cost savings from these programs.

Product formulations: Many in the industry—40 percent in 10-K filings, 35 percent in annual reports and 60 percent in sustainability reporting—discussed the risks associated with the development of pharmaceuticals and biotechnology products, including complex regulatory requirements, high capital costs and potential liabilities. However, 60 percent also talked about product innovations addressing sustainability challenges, including changes to packaging, formulations and production processes. For example:

- **Eli Lilly** detailed in its 10-K "the lengthy process of laboratory and clinical testing, data analysis, manufacturing development, and regulatory review necessary for governmental approvals" for drugs, which it said were "extremely costly" and often could "significantly delay product introductions." It also noted that its promotion, marketing, manufacturing and distribution of pharmaceutical and animal health products were heavily regulated around the world, and it was "required to conduct extensive post-marketing surveillance of the safety of the products we sell." In the United States, it said, the FDA, under authority from the Federal Food, Drug, and Cosmetic Act, had "jurisdiction over all of our products and administers requirements covering the testing, safety, effectiveness, manufacturing, quality control, distribution, labeling, marketing, advertising, dissemination of information, and post-marketing surveillance of our pharmaceutical products."

  Lilly added, "The FDA extensively regulates all aspects of manufacturing quality under its current Good Manufacturing Practices (cGMP) regulations," which Eli Lilly said required it to make "substantial investments of capital and operating expenses to implement comprehensive, company-wide quality systems in our manufacturing, product development, and process development operations to ensure sustained cGMP compliance." Furthermore, it noted, despite its best efforts it could "fail to adhere to cGMP requirements," which could lead to "interruptions in production, fines and penalties, and delays in new product approvals." It said it faced similar risks in its dealing with the European Medicines Agency (EMA) in the European Union and the Ministry of Health, Labor and Welfare (MHLW) in Japan.

- **Thermal Fisher Scientific** in its sustainability report detailed how it was developing "state-of-the-art products and services that help our customers meet their own corporate responsibility goals..." It pointed out that many of its products were "setting new industry standards for energy efficiency and responsible materials." As examples, it described its first "green" electrode, which "contains no mercury, lead or other hazardous substances, enabling easy disposal" and is the first lab pH electrode to meet Europe's Restriction of Hazardous Substances (RoHs) requirements, as well as a spectrophotometer that reduces energy consumption by more than 70 percent over traditional devices and also meets the RoHS directive. In addition, it said its "biosafety cabinets, ultra-low-temperature freezers and other essential laboratory products reduce energy use by as much as 80 percent, and without gases that can contribute to global warming," and its new fume hoods tap new filter technologies to cut atmospheric pollution from the exhaust and energy costs. It also highlighted its efforts to reduce waste and introduce more environmentally responsible packaging materials, including eliminating Styrofoam, using recyclable, eco-friendly packaging and developing hexacomb inserts to minimize waste.

- **Johnson & Johnson** said in its sustainability report that its Medical Devices and Diagnostics segment "has a cross-functional sustainability council and has established a comprehensive sustainability strategy" that focuses on product stewardship and supply chain sustainability, and it noted that its pharmaceuticals business unit has three main strategic areas of sustainability focus guided by a cross-functional sector sustainability council, one of which is "reducing the environmental impacts of pharmaceutical product development, manufacture, use and end-of-life management."

- **Perrigo** detailed its packaging reduction efforts in its sustainability report. It said these efforts were in part in response to customer requests for less packaging in support of their own sustainability programs. As examples, Perrigo said its Michigan facility "was able to reduce the amount of packaging materials needed for one product by 62,446 pounds per year and truckloads shipped per year by 19 percent by changing the graphic design layout of the packaging carton" and cut "annual material usage for four products by 85,000 pounds, reduced…truckload shipments by 22 per year and saved more than $500,000 in material costs by revising the design and size of 'stretch cards' on these products." Similarly, its South Carolina plant "eliminated more than 40,000 pounds per year of cartons and saved more than $20,000 per year by changing bottle size and eliminating the carton on three children's vitamin products" and eliminated approximately 165,000 pounds of packaging material per year through the use of new "stretch cards" similar to those deployed in Michigan.

Employment: Competition for employees was tight in the sector, and many companies—40 percent in 10-Ks, 35 percent in annual reports and 60 percent in sustainability reports—discussed risked associated with recruiting and retaining qualified workers. Three-fifths also talked about opportunities to boost productivity and other opportunities in employment. On risks, for example:

- **Life Technologies** said in its 10-K, "Our success will depend in large part upon our ability to attract and retain employees," and "the Company faces competition in this regard from other companies, research and academic institutions, government entities and other organizations."

While on opportunities:

- **Johnson & Johnson** recognized in its sustainability report that its "people and values are our greatest assets." It noted that its equal employment opportunity, anti-harassment and human rights policies were designed to enhance its ability to recruit and retain employees. It also described program aimed at encouraging health and productivity outcomes for its employees. An assessment of the program covering 2002 through 2008 and conducted in conjunction with Thomson Reuters and Emory University found that it achieved an average rate of growth in medical and pharmaceutical costs that is 3.7 percent lower than industry benchmarks, as well as smaller increases in emergency room and inpatient admissions and greater increases in doctor visits and prescription drug fills compared to other large companies. It said the program produced an average annual per employee savings of $565 in 2009 dollars and a return on investment equal to a range of $1.88 to $3.92 saved for every dollar spent on the program.

  J&J also described workplace health and safety initiatives to boost productivity and reduce incident, including reducing its companywide Lost Workday Case (LWDC) rate by 15 percent by 2015 or to less than 0.09; it was 0.11 in 2011. It said it had targeted the three largest contributors to incidents: ergonomic injuries at 30 percent; slips, trips and falls at 22 percent; and vehicle-related incidents at 20 percent. It also noted that its Serious Injury and Illness Case (SIIC) rate was 0.028 in 2011, down from 0.037 in 2011, and it reported no fatalities in 2011. It said it had nine health and safety violations in 2011, up from three in 2010, and associated fines of $7,311.

- Likewise, **Life Technologies** targeted safety and productivity gains. It had developed metrics based on U.S. Occupational Safety and Health Administration (OSHA) standards—two rates based on 100 employees working 2,000 hours annually, the OSHA recordable injury and illness rate, and the Days Away and Restricted Time (DART) rate. Since 2008, it said it reduced its OSHA recordable rate by 42 percent and its DART rate by 28 percent, which in turn reduced compensation claims from employees by 45 percent and "resulted in greater productivity." It too had focused on ergonomics, slip risks and process improvements.

Life Sciences also said diversity was critical in "creating a work environment that represents the global communities in which we live and work" and "bringing together people of all backgrounds, ethnicities, genders, races, abilities, and experience to serve as catalysts for unique ideas and workable solutions." Among other advantages, it added that "diversity strengthens and empowers us to anticipate, understand, and respond more effectively to the needs of our customers across the globe." It noted its creation of an executive diversity team to oversee its strategy and programs in this area.

Ethics: As with the Healthcare industry, ethics was a common topic among Pharmaceutical and Biotechnology firms, with 40 percent disclosing risks in 10-K's, mostly related to product liability issues but also tied to drug pricing and bribery. For example:

- **Eli Lilly** explained in its 10-K, "The marketing, promotional, and pricing practices of pharmaceutical manufacturers, as well as the manner in which manufacturers interact with purchasers and prescribers, are subject to various other federal and state laws, including the federal anti-kickback statute and the False Claims Act and state laws governing kickbacks, false claims, unfair trade practices, and consumer protection," and are overseen by the Department of Justice, the Office of Inspector General of the Department of Health and Human Services, the Federal Trade Commission, the Office of Personnel Management, and state attorneys general, among others. Eli Lilly noted that government entities have been stepping up enforcement activities as of late, and it has been the target of some of these actions.

  It also pointed to expenses and complications with complying with the U.S. Foreign Corrupt Practices Act (FCPA), which bans the bribery of foreign officials by U.S. firms. First, it said the FCPA imposes "specific recordkeeping and internal controls requirements on U.S. publicly traded companies," and it noted its business involved "significant interaction with foreign officials," as in many countries "the health care providers who prescribe pharmaceuticals are employed by the government and the purchasers of pharmaceuticals are government entities." It also noted that it was under cost containment pressures in having to provide "rebates to state governments on their purchases of our products under state Medicaid programs and to private payers who cover patients in certain types of health care facilities that serve low-income and uninsured patients (known as 340B facilities)."

  It noted that the enactment of the Patient Protection and Affordable Care Act and The Health Care and Education Reconciliation Act of 2010 "has brought significant changes" and additional cost pressures with "increases in the minimum statutory rebate for branded prescription drugs sold to Medicaid beneficiaries from 15.1 percent to 23.1 percent were generally effective in 2010.

  Eli Lilly also is complying with a prescription drug discount program for outpatient drugs in 340B facilities (for underserved populations) has been expanded, as well as a discount of 50 percent of the cost of branded prescription drugs for Medicare Part D participants who are in the so-called "doughnut hole"—the coverage gap in Medicare prescription drug coverage. At the same time, Eli Lilly said, "budget pressures are causing various states to impose cost-control measures such as higher rebates and more restrictive formularies." It is facing similar pricing pressures overseas.

It was confronting lawsuits relating to these issues, including U.S. patent litigation involving Alimta and Strattera, the Zyprexa product liability and related litigation, including claims brought on behalf of state Medicaid agencies and private healthcare payers, and the Byetta product liability litigation. It also is under investigation by the SEC and the Department of Justice over potential violations of the FCPA by Eli Lilly's Polish subsidiaries. It did not disclose the portion of its contingencies dedicated to covering these potential liabilities.

- **Pfizer** in its sustainability report emphasized, "We focus not simply on what we do but also on how we do it." It regularly reviews and updates management policies and procedures on ethics "to reflect the changing forces in science, technology and stakeholder expectations," and revised its clinical trial policies and advertising practices and translated its Pfizer Code of Conduct into 36 languages in 2007. It, too, is facing litigation surrounding ethical violations and disclosed in its 10-K:
    - Several securities class action suits were consolidated in the U.S. District Court for the District of New Jersey against Pharmacia, Pfizer and certain former officers of Pharmacia seeking damages for violations of "federal securities laws by misrepresenting the data from a study concerning the gastrointestinal effects of Celebrex." The case is pending.
    - Another class action is pending in the U.S. District Court for the Southern District of New York against Pfizer and several of our current and former officers alleging that Pfizer "violated federal securities laws by failing to disclose that it was engaged in off-label marketing of certain drugs."
    - Health Care Service Corporation (HCSC), for itself and its affiliates, Blue Cross and Blue Shield plans in Illinois, New Mexico, Oklahoma and Texas, filed an action against the company in the U.S. District Court for the Eastern District of Texas, alleging that Pfizer "engaged in deceptive marketing activities, including off-label promotion, and the payment of improper remuneration to healthcare professionals with respect to Bextra and Celebrex in violation of, among other things, the federal Racketeer Influenced and Corrupt Organizations (RICO) Act and the Illinois Consumer Fraud Act." HCSC also filed a separate lawsuit against Pfizer in the U.S. District Court for the Eastern District of Texas with similar allegations regarding Geodon, Lyrica and Zyvox. In both actions, HCSC "seeks to recover the amounts that it paid for the specified drugs on behalf of its members in Illinois, New Mexico, Oklahoma, and Texas, as well as treble damages and punitive damages."
    - Pfizer and "certain wholly owned subsidiaries and limited liability companies, including Wyeth and King, along with several other pharmaceutical manufacturers, have been named as defendants in approximately 10,000 actions in various federal and state courts alleging personal injury or economic loss related to the use or purchase of certain estrogen and progestin medications prescribed for women to treat the symptoms of menopause." The cases are in various states, some settled, some pending and others on appeal, and Pfizer has recorded aggregate charges with respect to these actions of \$336 million in 2011 and \$300 million in prior years. In addition, it recorded another charge of \$359 million in 2011 "that provides for the minimum expected costs to resolve all remaining hormone replacement therapy actions against Pfizer and its affiliated companies.

- Several individual and multi-plaintiff lawsuits have been filed against Pfizer and its subsidiaries in various federal and state courts “alleging personal injury as a result of the purported ingesting of Zoloft or Effexor.”
- Pfizer through Wyeth is also facing class actions in several courts seeking damages for the “delay in the launch of generic Effexor XR in the United States and its territories, in violation of federal antitrust laws and, in the indirect-purchaser actions, the antitrust, consumer protection and various other laws of certain states, as the result of Wyeth fraudulently obtaining and improperly listing certain patents for Effexor XR, enforcing certain patents for Effexor XR, and entering into litigation settlement agreements with various generic manufacturers with respect to Effexor XR.”
- Pfizer is the target of numerous other lawsuits filed on behalf of individuals, health insurers, employee benefit plans and other third-party payers regarding its promotion and sale of Neurontin, alleging that Pfizer promoted its use for treatments other than those approved by the FDA. One suit in the U.S. District Court for the District of Massachusetts has a court order trebling a jury verdict against for a total of $142.1 million for violations of the RICO Act. The decision is on appeal. Pfizer also is facing suits for alleged “suicide, attempted suicide and other personal injuries as a result of the purported ingesting of Neurontin.”
- Pfizer is facing a whistleblower action from a former employee in the U.S. District Court for the Eastern District of New York alleging off-label promotion of Lipitor in violation of the Federal Civil False Claims Act and the false claims acts of certain states, along with wrongful termination for raising the allegations with the company.
- Pfizer is facing several class actions regarding its marketing and delay of a launch of a generic for Lipitor, in addition.
- Pfizer is the subject of product liability suits related to Chantix/Champix and allegations that the drugs caused suicide, attempted suicide and other personal injuries.
- Another set of suits target Pfizer, its subsidiaries and Wyeth for allegedly “making false and misleading statements, and by failing to disclose or causing Wyeth to fail to disclose material information, concerning the results of a clinical trial involving bapineuzumab, a product in development for the treatment of Alzheimer’s disease.
- Wyeth also is a defendant in several suits by or on behalf of vaccine recipients “alleging that exposure through vaccines to cumulative doses of thimerosal, a preservative used in certain childhood vaccines formerly manufactured and distributed by Wyeth and other vaccine manufacturers, caused severe neurological damage and/or autism in children.”
- Finally, another set of suits alleges Wyeth violated federal securities laws by misrepresenting the safety of Pristiq during the period before the FDA’s issuance in July 2007 of an approvable letter for Pristiq for the treatment of vasomotor symptoms.

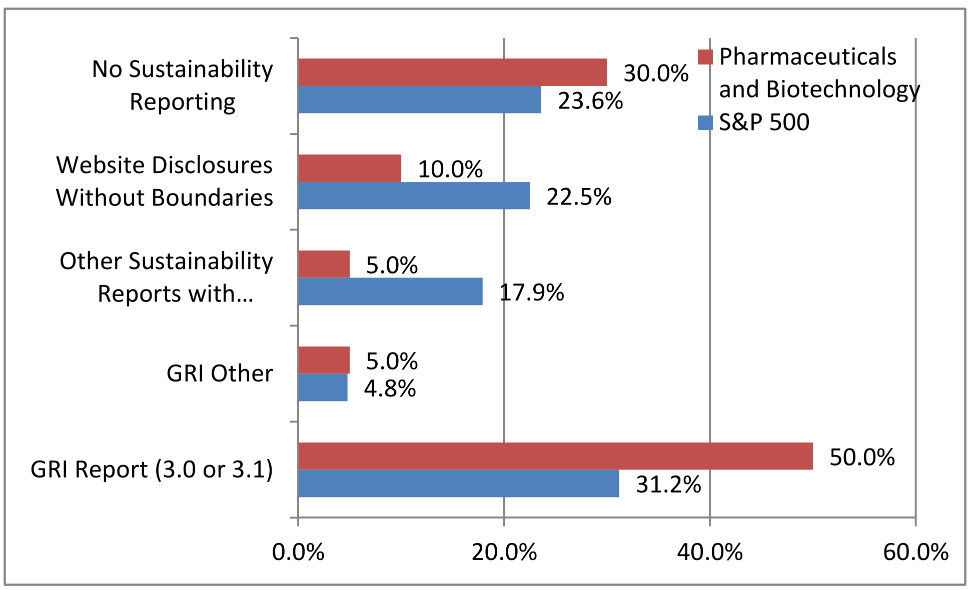
Other issues: The sector also disclosed savings related to sustainability initiatives centered on water use and waste management:

- **Eli Lilly** said in its sustainability report that its Speke, United Kingdom, manufacturing facility had developed “new processes for antibiotic production” that had “decreased water usage by 143 million liters per year or about 10 percent of the total usage, while reducing steam usage by

7,000 metric tons or 5 percent of overall use." The changes, it said, saved the company $560,000 in 2012 alone and "projected waste stream reductions related to the initiative could push annual savings to $2 million." Eli Lilly said it also posted savings and a reduction in waste generation through its sustainable packaging efforts, including "thousands of metric tons of packaging and millions of dollars."

- Similarly, **Abbott Laboratories** in its sustainability report noted it reduced corrugated packaging for Abbott Nutrition 1-liter and 1.5-liter Ready-to-Hang liquid nutrition products, "resulting in a material reduction of more than 740,000 pounds annually and delivering about $150,000 in cost savings." It also implemented "an e-label site to allow customers of our Diagnostics division to download [instructions for use]," which "saved 330,693 pounds of paper annually and delivered approximately $1 million in annualized savings…"
- Likewise, **Biogen Idec** noted in its sustainability report that it had been working to eliminate and divert waste streams from landfills through recycling and composting initiatives, including through the use of waste into energy systems using advanced incineration processes. As a result, it said, it had diverted more than 430 metric tons of waste and saved approximately $8 million from 2009 through 2011.

Sustainability reporting: The sector lagged the S&P 500 in sustainability reporting by more than 6 percentage points, with 70 percent issuing reports or having dedicated portions of their websites with sustainability information. However, the sector was more likely to use GRI than other industries with 55 percent doing so, compared with 36 percent for the S&P 500. *(See bar chart.)*



Financials in sustainability reporting: For those engaged in sustainability reporting, 21.4 percent also included consolidated or full financials, and another 50 percent offered some sort of economic overview of their operations. It beat the S&P 500 average for including financials in sustainability reporting (71.4 versus 61.6 percent).

Board diversity: Pharmaceutical and Biotechnology firms were slightly more likely than the S&P 500 to have board diversity disclosures in proxy statements incorporating gender and/or race as factors in director nominations—40 percent compared with 37.2 percent for the broader index. For example:

- **Biogen Idec** said in is proxy statement that its corporate governance committee "focuses on obtaining a diversity of professional expertise on our Board of Directors rather than a diversity of personal characteristics, it recognizes the desirability of gender, ethnic and racial diversity and considers it an additional benefit when a new director can also increase the personal diversity of our Board of Directors as a whole."

Pay links: However, the sector fell below average in linking executive pay to environmental (none versus 13.3 percent), social (20 versus 27.2 percent) or ethical (none versus 10.7 percent) criteria.

- **Life Technologies** in its proxy statement said its annual incentive pay for named executive officers in part was tied to: providing "learning opportunities for 32 percent of employees;" ensuring "the company is known as a place that is inclusive of all people and diverse in its complexion;" offering "diversity and inclusion training to over 400 employees;" and providing "the tools, resources and support for a safe, healthy, and sustainable workplace.

Points: Pharmaceutical and Biotechnology firms squeaked ahead of the S&P 500 in Si2's assessment, with an average of 18.5 points, a single point ahead of the broader index's 17.5-point average. **Amgen** was the sector leader with 35 points and is profiled below.

Sector Profile: Amgen

Amgen is the world's largest biotechnology medicines company. It uses cellular and molecular biology to battle cancer, kidney ailments, inflammatory disorders and metabolic diseases. Amgen's principal products are Neulasta (pegfilgrastim), a pegylated protein, based on the Filgrastim molecule, and NEUPOGEN (Filgrastim), a recombinant-methionyl human granulocyte colony-stimulating factor (G-CSF), both of which selectively stimulate the production of neutrophils (a type of white blood cell that helps the body fight infection); Enbrel (etanercept), an inhibitor of tumor necrosis factor (TNF), a substance that plays a role in the body's response to inflammatory diseases; and Aranesp (darbepoetin alfa) and EPOGEN (epoetin alfa), erythropoiesis-stimulating agents (ESAs) that stimulate the production of red blood cells.

Like other Pharmaceutical and Biotechnology companies, Amgen has significant risks in the area of ethics including fraud, pricing and product liability issues, and it is competing fiercely for talent to help keep product innovation on track. However, it also had a several environmental programs including six conservation targets in the areas of energy, water and waste, which it exceeded in 2011. These resulted in the reduction in "millions of dollars of costs," indicating the strong link Amgen sees between sustainability efforts and financial performance.

Amgen's sustainability report complies with the GRI's version 3.1 guidelines and produced a C+ level report verified by GRI. Like other companies, it discussed many sustainability risks in its 10-K filing and annual report, but it also talked about some of its sustainability achievements in its annual report and referred interested readers to its sustainability report for further information.

Ethics: In its 10-K, Amgen warned investors that its "corporate compliance and risk mitigation programs cannot guarantee that we are in compliance with all potentially applicable U.S. federal and state regulations and all potentially applicable foreign regulations and/or that we effectively manage all operational risks." It explained, "The development, manufacturing, distribution, pricing, sales, marketing and reimbursement of our products, together with our general operations, are subject to extensive federal and state regulation in the United States and to extensive regulation in foreign countries." These shortcomings, it said, had the potential to "have a material and adverse effect on our product sales, business and results of operations."

Amgen also noted that it was subject to U.S. state and federal, as well as foreign, laws "pertaining to healthcare fraud and abuse, including anti-kickback laws and false claims laws." It flagged that "due to the breadth of the statutory provisions and the absence of guidance in the form of regulations or court decisions addressing some of our practices, it is possible that our practices might be challenged under anti-kickback or similar laws." These included claims under Medicare and Medicaid reimbursement programs. It also encompassed requirements under the U.S. Foreign Corrupt Practices Act (FCPA), which "prohibits U.S. corporations and their representatives from offering, promising, authorizing or making payments to any foreign government official, government staff member, political party or political candidate in an attempt to obtain or retain business abroad," including "interactions with certain healthcare professionals in many countries." It also reviews these risks in its annual report.

In its 10-K filing, Amgen disclosed numerous lawsuits related to patent infringement, marketing, pricing and trade practices, and securities law. It recorded a $780 million charge associated with the proposed settlement of allegations arising from federal civil and criminal investigations pending in the U.S. Attorney's Offices for the Eastern District of New York and the Western District of Washington. The settlement covers investigations into Amgen's sales and marketing practices, as well as related state Medicaid claims.

Amgen also disclosed that it and its wholly owned subsidiary, Immunex, "are named as defendants in numerous civil actions broadly alleging that they, together with many other pharmaceutical manufacturers, reported prices for certain products in a manner that allegedly inflated reimbursement under Medicare and/or Medicaid programs and commercial insurance plans, including co-payments paid to providers who prescribe and administer the products." These include cases brought by consumer classes and certain state and local governmental entities and are in various pretrial stages.

Amgen also is embroiled in six federal class action stockholder lawsuits, which were consolidated by the California Central District Court into one action. The suit alleges that Amgen, its officers and directors made false statements that resulted in: "(i) deceiving the investing public regarding Amgen's prospects and business; (ii) artificially inflating the prices of Amgen's publicly traded securities and (iii) causing plaintiff and other members of the class to purchase Amgen publicly traded securities at inflated prices." The plaintiffs also allege that Amgen engaged in off-label marketing of Aranespa and EPOGENA while aware that there were safety concerns with these products. The plaintiffs seek class certification, compensatory damages, legal fees and other relief deemed proper. The case is on appeal. Amgen is also fighting several state stockholder derivative complaints, as well as an ERISA class action lawsuit on behalf of retirement funds, with similar allegations.

Amgen also discloses other subpoenas from states' attorney generals surrounding its "promotional activities, sales and marketing activities, medical education, clinical studies, pricing and contracting, license and distribution agreements and corporate communications." Amgen says it is cooperating with these investigations. Many were related to the settlement discussed at the beginning of this section.

Climate change: A central part of Amgen's climate change strategy is its set of energy efficiency programs, which have enabled the company to keep energy consumption constant from 2010 to 2011 while increasing production. Amgen noted in its sustainability report that its overall energy consumption trend is downward and its energy mix, while overwhelmingly dependent on diesel, natural gas and propane, is increasingly tapping renewable resources.

Amgen tackled "energy conservation by using a science-based approach that supports our complex and highly regulated business," while "maximizing opportunities to implement retrofits and install new technologies to increase the efficiency of many of our existing buildings and utility systems." A large part of the process was accurate measurement, using the World Resources Institute's Greenhouse Gas Protocol, and monitoring and the sharing of good practices. (It presently measures its Scope One and Two emissions under the Greenhouse Gas Protocol and is working on Scope Three.)

Its projects resulted in energy savings of 181,000 gigajoules and a carbon dioxide (CO2) reduction of 15,000 metric tons (MT) in 2011 and cumulative savings of $11 million annually since 2007. While energy consumption was constant between 2010 and 2011, Amgen reduced its carbon emissions, mostly through reducing its reliance on diesel fuel as a primary direct and indirect fuel source in Puerto Rico. Amgen also has been working to improve the fuel efficiency of its U.S. sales fleet, resulting in savings of $1.3 million and avoidance of more than 3,300 metric tons of carbon dioxide (CO2) and more than 375,000 gallons of fuel in 2011. Since 2008, Amgen has improved the fuel efficiency of its fleet by 21 percent, equating to savings of more than $2.7 million through avoidance of more than 900,000 gallons of gasoline and avoidance of approximately 8,000 metric tons of CO2.

Waste management: Overall, Amgen noted that its non-hazardous waste streams have decreased steadily in recent years as it has increased recycling, which hit a rate of 59 percent for waste generated by its facilities. It emphasized that packaging is tricky in its industry, given stringent requirements worldwide for its products, but that it was considering options for making the secondary packaging that contains medicine vials or syringes more environmentally friendly, as well as more recyclable. In 2011, it said it "developed a Green Packaging Assessment Process that evaluates the sustainable qualities of new secondary packaging while in the design phase, such as the potential for using recycled content in the paperboard." For existing packaging, it said it would begin in 2012 to implement plans "to expand the use of recycling messages on paperboard product cartons in order to encourage end users to send the secondary packaging for recycling after use of our products" and adding messaging to encourage end users to do so. It also created a mail-back program in 2011 for Enbrel patients to send back filled sharps containers in a prepaid mailer, which is recycled by a third party.

It also has been expanding recycling at its facilities, increasing the composting of "landscape, food, and disposable food-service waste; sending lab plastics and other hard-to-recycle items like Styrofoam to be converted to new items; and reusing equipment and office supplies on-site." It also has looked toward reducing incoming waste, such as a programs to cut bulk mail delivery to its California headquarters, decrease the amount of printed materials it brings to trade shows by 60 percent, and to encourage employees to use reusable plates and cups. It also has worked toward eliminating redundant purchases of chemicals.

Hazardous waste: In its 10-K, Amgen notes that it is "subject to regulation under the Occupational Safety and Health Act, the Toxic Substances Control Act, the Resource Conservation and Recovery Act and other current and potential future federal, state or local laws, rules and/or regulations," and that its research and development activities "involve the controlled use of hazardous materials, chemicals, biological materials and various radioactive compounds." It said it believed it was in compliance with these requirements, but "the risk of injury or accidental contamination cannot be completely eliminated."

Amgen said in its sustainability report that hazardous waste represents about 13 percent of its total waste stream, and it is working here, as in non-hazardous waste, to reduce outputs; it achieved a small reduction between 2010 and 2011. It noted that "the development and manufacture of biotechnology medicines, which represent the majority of Amgen's current portfolio of medicines, are inherently greener enterprises from beginning to end than are small-molecule development and manufacture." It explained, "Biotechnology medicines require a smaller quantity of chemicals to manufacture, and additionally, they don't persist in the environment." Nonetheless, Amgen was looking toward green chemistry innovations to improve its formulations and reduce its use and creation of hazardous materials. It noted that it decreased "the total manufacturing cost of one of our molecules by 65 percent by using certain waste-reducing and efficiency-enhancing techniques of green chemistry." *(See product formulations below for more information.)*

Water use: Amgen also described in its sustainability report efforts to reduce its water use by becoming more efficient in its processes as well as retreating and reusing wastewater from its operations. It has begun reusing approximately 72 percent of the wastewater generated at its largest manufacturing facility, in Puerto Rico with the installation of a wastewater treatment plant, which decreased its water usage from 2007 to 2008 by approximately 318,000 cubic meters of water. Overall in 2011, Amgen recycled or reused more than 500,000 cubic meters of water, representing approximately 21 percent of its total water withdrawal. It also said it was looking toward landscaping solutions, smart-irrigation controls and water-saving fixtures at its facilities worldwide to make additional reductions.

Product formulations: Amgen also talked about its Green Chemistry program in its sustainability report, which is working with its early-stage-research Medicinal Chemistry area and its Small Molecule Process and Product Development (SMP&PD) to pioneer new approaches to reduce the environmental impacts of Amgen's products. It said its "green chemistry efforts are most robust in SMP&PD, where a dedicated team is finding creative and innovative ways to reduce the use of chemicals, minimize waste, and improve process efficiency in the development of Amgen small-molecule candidates." This team, Amgen said, measures its progress using a green chemistry metric called the E-Factor, a snapshot of the kilograms of waste produced for every kilo of product created. It said its SMP&PD was able to improve the E-factor of a molecule Amgen uses by 51 percent (and later, with improvements, by 65 percent), "which eliminated a large amount of waste and enhanced the safety and robustness of the process."

Employment: In its annual report, Amgen stated that its staff members "represent our competitive advantage." To maintain its edge over competitors in this area, Amgen's sustainability report described safety, wellness and benefits programs to attract and retain talent. It said that it began expanding its data tracking at all of its facilities to include health and safety metrics for contractors on site beginning in 2009. Amgen said it also has a safety management system that searches for potential risks, builds solid procedures and expectations for performance and provides education to staff, as well as empowers staff to report issues. Prevention is the centerpiece of the program, so it identifies high-potential safety risks, such as working at heights, with chemicals, or working with pressurized systems, for added scrutiny. Its efforts were yielding results, and it reported steadily declining injury and illness rates from 2007 through 2011.

As a health sciences company, it was natural for Amgen to develop a wellness program for employees. "The program helps staff members and their spouses or domestic partners kick bad health habits, get moving, and eat healthy foods" and includes an initial health risk assessment. It is also giving employees tools to succeed, including lowering calorie counts of dishes and offering healthier choices in its employee cafeterias. Amgen says these program help reduce employee healthcare costs, reduce time away from work and increases overall productivity.

Amgen also noted that it was working to help its staff achieve work-life balance by providing "flexible work arrangements such as flexible work schedules, telecommuting, remote work, part-time work, and job-sharing options when appropriate."

Board diversity: In addition, although the Governance Committee does not maintain a diversity policy, the Governance Committee considers diversity in its determinations. Diversity includes race, ethnicity, age and gender and is also broadly construed to take into consideration many other factors, including industry knowledge, operational experience and scientific and academic expertise, geography and personal backgrounds.

Pay links: None.

• Banking and Investment Management

The Banking and Investment Management sector scored the fifth lowest average number of points in Si2's evaluation—9.9 points—almost half the 17.5 average for the S&P 500; these firms were the second least likely to issue sustainability reports. Like many other service-oriented sectors, the industry also had no true integrated reporters and across the board was less likely to make disclosures in the subject areas studied, with a few exceptions in employment, human rights and ethics. Among Banking and Investment Management firms, the highest reporting areas were employment—not surprising given the intense competition for talent in the sector, climate change and product formulations.

Liability discussions also lagged, perhaps expectedly given the industry's activities, with only 4.7 percent disclosing environmental liabilities, the second lowest disclosure rate among industries and well below the S&P 500 average of 38 percent, and only 37.2 percent had information on other sustainability-related liabilities, again below the S&P 500 average of 41.9 percent.

Banking and Investments	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	0.0%	0.0%				
Conflict Minerals	0.0%	0.0%				
Government Payments	0.0%	0.0%				
Climate Change	25.6%	4.7%	25.6%	7.0%	32.6%	27.9%
Environmental Management	7.0%	0.0%	9.3%	4.7%	37.2%	32.6%
Water Use	2.3%	0.0%	4.7%	2.3%	11.6%	9.3%
Hazardous Waste	9.3%	0.0%	9.3%	0.0%	11.6%	7.0%
Waste Management	2.3%	0.0%	9.3%	7.0%	20.9%	18.6%
Product Formulations	11.6%	2.3%	20.9%	9.3%	37.2%	37.2%
Employment	25.6%	14.0%	25.6%	20.9%	34.9%	34.9%
Human Rights	0.0%	0.0%	0.0%	0.0%	9.3%	7.0%
Ethics	39.5%	0.0%	34.9%	2.3%	23.3%	14.0%
Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.						
Areas where this industry group posted the highest percentage among all industries are highlighted in red.						
Source: Sustainable Investments Institute (Si2), Washington, DC						

Employment: An area addressed by a little more than a third of the Banking and Investment Management sector, most firms focused on discussions of attracting and retaining talented personnel and programs to achieve recruitment and retention goals. For example:

- **The Bank of New York Mellon** said in its 10-K, "Our business may be adversely affected if we are unable to attract and retain employees," as "Our success depends, in large part, on our ability to attract new employees, retain and motivate our existing employees, and continue to compensate our employees competitively amid intense public and regulatory scrutiny of the compensation practices of large financial institutions." It noted, "Competition for the best employees in most activities in which we engage can be intense, and there can be no assurance that we will be successful in our efforts to recruit and retain key personnel." Key factors affecting its ability to attract and retain key employees included "our compensation and benefits programs and our reputation for rewarding and promoting qualified employees," although Bank of New York Mellon said its efforts may be hindered in these areas by regulation, including Dodd-Frank reforms.

- Similarly, **Legg Mason** said in its 10-K, "competition for experienced asset management personnel is intense and from time to time we may experience a loss of valuable personnel." It added, "We recognize the importance to our business of hiring, training and retaining skilled professionals."
- Likewise, **Bank of America** said in its sustainability report, "To be successful, Bank of America must have a strong, diverse, talented team of people who are committed to the values and vision of the company," which it said it was fortunate enough to have. It noted, "A diverse workforce and inclusive environment is essential to attracting and retaining the best talent in the sector," and Bank of America "continues to be widely recognized for our diversity and inclusion policies and initiatives as well as the internal structure and oversight that guide our practices."

  To enhance its programs, in 2012 the bank began to reimburse eligible employees based in the United States who elected to cover a same-sex domestic partner and/or same-sex domestic partner's children through the company's insurance plans, to offset the additional required tax paid by the employee for that coverage.

  Bank of America, uncharacteristic of much of the sector, highlighted its employee safety efforts, including "an industry-leading Occupational Health and Safety (OSHA) program, which aims to reduce injury rates in addition to providing a safe and secure workplace and emergency evacuation procedures for employees." It said its Safety and Injury Prevention Department had "conducted extensive research to identify and address problems, particularly those related to slip and trip hazards and muscular-skeletal disorders, including repetitive stress injuries such as carpal tunnel syndrome." It said it had trained nearly 6,000 managers to prevent injury and manage costs since 2005 and had established ergonomic design standards for its facilities. The company also launched a more robust technology program to enhance employee communication and engagement.

Ethics: Fallout from the mortgage-backed securities and related financial crisis continued to bedevil the industry in litigation and increased scrutiny from regulators; this played out throughout securities filings and other forms of reporting. Nearly 40 percent of the sector identified these types of risks in 10-K statements. For example:

- **Goldman Sachs** in its 10-K disclosed it had been named as a defendant "in a variety of lawsuits alleging improprieties in the process by which those companies participated in the underwriting of public offerings in recent years." Goldman Sachs has settled most of these matters, but several were still pending. The company also noted it was "subject to a number of investigations and reviews by various governmental and regulatory bodies and self-regulatory organizations relating to research practices, including, among other things, research analysts' methods for obtaining receipt and distribution of information and communications among research analysts, sales and trading personnel and clients." So far, Goldman Sachs has paid more than $50 million in civil penalties related to these matters, but other investigations and litigation are still pending.

  Goldman Sachs also was named as a defendant in a class action pending in the U.S. District Court for the District of Columbia related to Fannie Mae. The complaint, the company said, "asserts violations of the federal securities laws generally arising from allegations concerning Fannie Mae's accounting practices in connection with certain Fannie Mae-sponsored REMIC [real estate mortgage investment conduit] transactions" that were allegedly arranged by Goldman Sachs. The complaint does not specify a dollar amount of damages, and the case is pending.

The company also was the target of a shareholder derivative action alleging that Goldman Sachs's 2008 proxy statement violated "federal securities laws by undervaluing certain stock option awards and alleging that senior management received excessive compensation for 2007. The case has been appealed and re-filed in several different incarnations but is still pending. Goldman Sachs is facing a similar action surrounding its 2009 compensation practices.

Finally, Goldman Sachs also is the target of several lawsuits related to mortgage-backed securities. In April 2010, the SEC brought an action under the U.S. federal securities laws in the U.S. District Court for the Southern District of New York against Goldman Sachs and one of its employees in connection with a collateralized debt offering made in early 2007, "alleging that the defendants made materially false and misleading statements to investors and seeking, among other things, unspecified monetary penalties." Goldman Sachs entered into a consent agreement with the SEC in July 2010, settling all claims for $550 million of disgorgement and civil penalties, which was approved by the U.S. District Court for the Southern District of New York. However, ACA Financial Guaranty Corp. filed a related action surrounding the same transaction alleging "fraudulent inducement, fraudulent concealment and unjust enrichment" and seeking "at least $30 million in compensatory damages, at least $90 million in punitive damages and unspecified disgorgement." The action is still pending.

Also surrounding the same collateralized debt offering transaction, Goldman Sachs is the defendant in several shareholder derivative actions filed in New York Supreme Court, New York County, and the U.S. District Court for the Southern District of New York, which are still pending. Several other shareholders, Goldman Sachs disclosed, have demanded books and records related to the same transaction and to Goldman Sachs's" mortgage servicing and foreclosure activities, participation in federal programs providing assistance to financial institutions and homeowners and loan sales to Fannie Mae and Freddie Mac." Several other shareholders also are challenging Goldman Sachs's disclosure practices in these areas in courts.

Further, a class action has been filed against Goldman Sachs and its mortgage and securities subsidiaries in the U.S. District Court for the Southern District of New York on behalf of "purchasers of various mortgage pass-through certificates and asset-backed certificates issued by various securitization trusts established by the firm and underwritten by Goldman Sachs in 2007." The plaintiffs allege that "the registration statement and prospectus supplements for the certificates violated the federal securities laws," and they seek unspecified damages. Since the original filing, other plaintiffs have joined the original filers of the case, and they have been certified as a class. The case is still pending.

In its sustainability report, Goldman Sachs said that it knows "that strong and sustainable performance cannot be achieved without sound governance, which it says is the "foundation" of any "well-run company." It noted that it continues "to commit considerable resources to effective governance, recognizing that we are stewards for our shareholders, our clients, our people and our communities." It noted that about half of its employees sit on the "control" side of the firm and "perform an independent control function, the primary goal of which is to make sure that we meet the financial control and reporting obligations of a public, globally regulated financial institution." It also described its risk function and board oversight of these functions.

- Likewise, **JPMorgan Chase** said in its 10-K that it recognized it operates in a "highly regulated industry" and reviewed additional obligations it has under the Dodd-Frank financial reform law, the full effects of which "remains uncertain because of the extensive rule-making still to be completed." It said these new rules and increasing capital standards requirements under, for example, Basel III, "will impose additional capital, liquidity and other requirements on the Firm that could decrease its competitiveness and profitability." It also said "expanded regulatory oversight of JPMorgan Chase's consumer businesses will increase the Firm's compliance costs and risks and may negatively affect the profitability of such businesses." It also noted significant legal risks in these and other areas, and it warned shareholders that it expects to "experience a high level of litigation related to its businesses and operations" in the years to come."

JPMorgan pointed to the formation of the Residential Mortgage-Backed Securities Working by the U.S. Department of Justice, the New York State Attorney General, the Secretary for Housing and Urban Development and the SEC in January 2012 to investigate "those responsible for misconduct contributing to the financial crisis through the pooling and sale of residential mortgage-backed securities." It said, "These and other initiatives from state and federal officials may subject the Firm to additional judgments, settlements, fines or penalties, or cause the Firm to be required to restructure its operations and activities, all of which could lead to reputational issues, or higher operational costs, thereby reducing the Firm's revenue."

Further, the firm noted that it had already entered into the consent orders "with banking regulators relating to its residential mortgage servicing, foreclosure and loss-mitigation activities, and agreed to the global settlement with federal and state government agencies relating to the servicing and origination of mortgages." The litigations, it said, "range from individual actions involving a single plaintiff to class action lawsuits with potentially millions of class members."

- In emphasizing the positive aspects of good ethical behavior, **American Express** said in its sustainability report that it "strives to achieve strong financial returns for our shareholders, while maintaining high ethical standards," as it knows that its "reputation affects our business results, and it is essential that we operate with integrity in all that we do." It pointed to its risk management programs, corporate code of ethics and board oversight mechanisms as evidence of its due diligence in these areas. It concluded, "We believe this investment in building a culture of character has a direct, positive impact on our customers' experience of our brand, the satisfaction of our employees, and the bottom line."

Human rights: As noted earlier, the sector had above average disclosures in the area of human rights, namely in sustainability reporting, where several described efforts to comply with sanctions and minimize human rights risks in transactions. For example:

- **Goldman Sachs** noted in its sustainability report that the "global geopolitical environment requires participants in capital markets to be informed and vigilant, particularly with the rise in recent years of government sanctions against rogue states," which "typically require companies to suspend business and financial activities with those countries." It said, "Quickly identifying and containing any such exposures is a critical component of risk management and one that requires a combination of nimbleness and thoroughness." It said several of its divisions were engaged in these activities, including its Compliance, Operations and Legal Divisions.
- Meanwhile, **Citigroup** said in its sustainability report that its Environmental and Social Risk Policy incorporated "many human rights issues, including labor risks, security risks, Indigenous Peoples, and resettlement, via the International Finance Corporation (IFC) Performance Standards and the Equator Principles." Citigroup said it closed 13 transactions in 2011 where its Human Rights Statement was relevant or invoked. In those cases, it said its team "identified those transactions with human rights risks during the initial due diligence phase and ensured, prior to close, that the risks were properly mitigated and managed by our clients."

Climate change: An areas addressed by almost a third of the companies in the sector, most focused discussion on related risks to operations, energy efficiency efforts, as well as investments in renewable energy and other climate-friendly capital projects. For example:

- **Citigroup** noted in its 10-K that it had "developed programs for its properties to achieve long-term energy efficiency objectives and reduce its greenhouse gas emissions to lessen its impact on climate change," and it had "integrated a climate change adaptation strategy into its operational strategy, which includes redundancy measures, to address risks from climate change and weather influenced events." Still, it warned, "These activities could help to mitigate, but will not eliminate, Citi's potential risk from future climate change regulatory requirements or Citi's risk of increased costs from extreme weather events."
- Similarly, **Regions Financial** warned in its 10-K that "hurricanes and other weather-related events, as well as man-made disasters, could cause a disruption in our operations or other consequences that could have an adverse impact on our results of operations," including its clients' abilities to repay their loans on time. It pointed out that "a significant portion of our operations are located in the areas bordering the Gulf of Mexico and the Atlantic Ocean, regions that are susceptible to hurricanes, or in areas of the Southeastern United States that are susceptible to tornadoes and other severe weather events." It added, "The severity and impact of future hurricanes, severe tornadoes, droughts and other weather-related events are difficult to predict and may be exacerbated by global climate change."
- Meanwhile, **The Bank of New York Mellon** said in its sustainability report that it had aimed to achieve a 10 percent electrical energy reduction and an associated 10 percent reduction in greenhouse gas emissions in its tracked U.S. office portfolio by 2015 from a 2007 baseline, and it continued to offset 75 percent of its domestic electricity consumption through renewable energy investments. To aid in its efforts, it has developed a new database to provide global data on its energy and emissions and it participates in the EPA's Energy Star program, which included LEED certification criteria.

  The bank highlighted its investment of $9.4 million on capital projects related to energy savings since 2005, which avoided costs of more than $3.5 million in 2011 and $8.5 million since 2005. It continues to set priorities in this area, after beginning with a focus on the largest energy-consuming portion of its real estate portfolio and now moving to direct investments and initiatives to low-efficiency locations worldwide. In addition, its power usage effectiveness program, which it has implemented at every data center, has saved 147 million kilowatt hours and $11 million since the program's inception in 2006. It also was working toward substituting business travel with increased use of communications technologies.

Product formulations: The sector also was fairly active in describing product formulations addressing sustainability challenges, with a little over a third doing so. Most, as appropriate for the industry, targeted investments to renewable energy and environmentally friendly projects, as well as to other areas such as affordable housing. For example:

- The **Chicago Mercantile Exchange** noted in its 10-K that it was the owner of about 40 percent of Green Exchange Holdings LLC valued at approximately $4.1 million at the end of 2011. The Green Exchange provides environmental futures and options contracts.
- Meanwhile, **Capital One** noted in its annual report that as the largest bank headquartered in the Washington, DC metropolitan area it was "strengthening economically challenged neighborhoods in and around the nation's capital" by making "substantial" investments in affordable

housing. It described Matthews Memorial Terrace, which will add 99 rental apartments in Southeast Washington's Barry Farm neighborhood and was financed in part by $16 million in construction loans, term loans and investment capital from Capital One. The company noted that the "construction creates employment, and the eco-friendly features of the complex will qualify it for certification by the U.S. Green Building Council."

- **Wells Fargo** in its sustainability report noted that since "investing in a utility-scale photovoltaic project in New Mexico with more than 190,000 solar panels," the company had "become one of the largest owners of solar assets in the country." It said its portfolio includes more than 50 clean, renewable energy projects in 2011, and more than 300 since 2006, representing more than $3.8 billion in debt and equity financing.

  It underscored that the projects support cleaner air for communities as well as job growth. It also noted it had raised more than $1.4 billion in financing in 2011 through Wells Fargo Securities' Public Finance and Sustainable Public Infrastructure groups "to help cities and universities finance energy efficiency, water and clean energy infrastructure, and clean transportation projects." In 2011, it said "the group helped municipalities finance more than $300 million of water infrastructure projects" and also "began working with Los Angeles and San Francisco counties to support commercial Property Assessed Clean Energy financing initiatives." It also had "provided more than $5.8 billion in financing since January 2005 for building projects designed to qualify for the U.S. Green Building Council's LEED certification," including for multi-family homes and buildings in low- and moderate-income neighborhoods nationwide. It said it aimed to increase its lending in this area going forward.

- **U.S. Bancorp** disclosed in its sustainability report that it had loaned or invested more than $3.7 billion in environmentally-beneficial business opportunities such as renewable energy and LEED-certified commercial real estate since 2008. It also had created a program in 2011 targeted at small business owners with little time or expertise to develop energy efficiency programs to help them to do so by offering them expertise and guidance on opportunities, incentives and rebates available to them, as well as financing options.

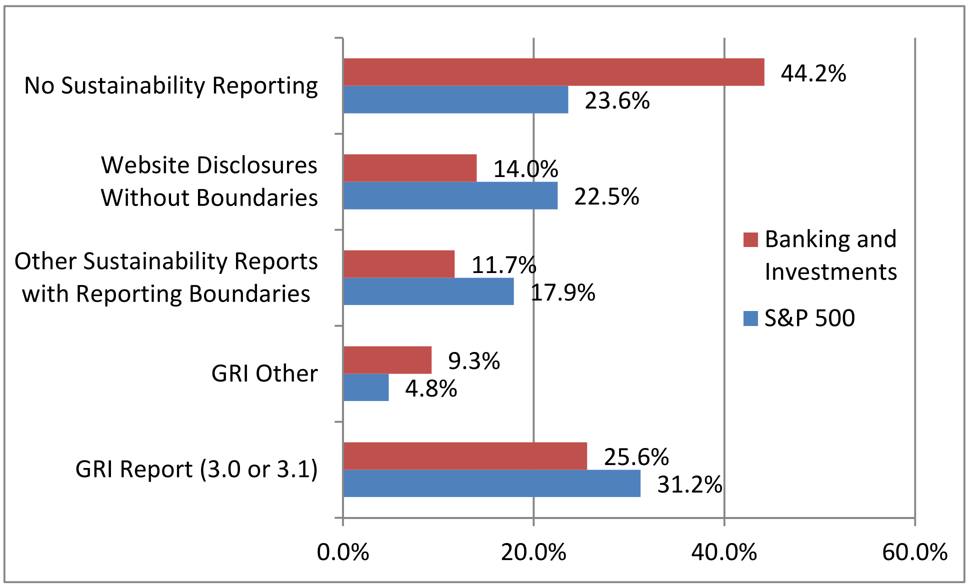
Other areas: While reporting in other areas covered by the study was minimal, the sector held a few examples of companies engaging in sustainability efforts and reporting cost savings, revenues or other financial benefits from the activities. For example:

- **Citigroup** described in its sustainability report its efforts to save water by refurbishing washrooms, kitchens and gyms in its facilities and, in some case, by harvesting and recycling rainwater. It noted its new Milan office's rainwater harvesting system provided 344,000 liters of water a year and has cut the use of municipal water by 38 percent, and treated rainwater is used to flush all the toilets and urinals at its Sao Paulo Citicenter, resulting in a 20 percent reduction in municipal water consumption and estimated savings of around $3,500 a month on water bills. It has similar systems at its offices in Senatorska in Poland and Yilmaz Plaza in Turkey, while Citi sites in Argentina and Peru had installed automatic water shut off valves. Altogether, the initiatives had helped Citigroup cut its water use by 16.9 percent since 2005.

- Likewise, **Bank of America** said it had implemented extensive recycling efforts globally and had made improvements in tracking and reporting of workspace waste and recycling to aid its efforts. By the end of 2001, recycling of plastic, aluminum and cardboard was available in more than 60 percent of the owned and leased space it occupies globally, and recycling program enhancements in the United States alone had saved the company $329,000. It also had worked through its operations to reduce paper use through mail suppression, print monitoring and control, electronic statements, electronic payments, and image ATMs, which together prevented the use of 12,492 metric tons of paper (and 36,022 metric tons of greenhouse gas emissions). It also implemented a companywide reporting and management system to help leaders readily identify the greatest areas of consumption in their organizations and initiate programs to address them. As a result, it said it had reduced another 1,526 metric tons of printed pages in 2011, saving more than $15 million.

- **Bank of New York Mellon** noted in its sustainability report that its U.S. internal copy paper reduction program had saved 180 million sheets of paper, equivalent to approximately $1 million in cost savings. However, it saw "considerable potential" for additional "cost savings, paper savings and revenue through paperless applications in our businesses." For example, paperless initiatives implemented by its businesses had already resulted in savings of more than $10 million.

Sustainability reporting: Banking and Investment Management firms were below average sustainability reporters overall, with only about 56 percent doing so compared with 76.4 percent for the S&P 500. However, the sector was on par with others in using GRI guidelines, with about 35 percent at least making reference to the standard. *(See bar chart.)*



Financials in sustainability reporting: Of those issuing sustainability reports, about a fifth in the sector coupled sustainability information with consolidated or full financial statements and another 41.7 percent included broad economic descriptions of operations. The sector edged out the S&P 500 in including financials in sustainability reporting (62.5 versus 61.6 percent).

Board diversity: The Banking and Investment Management sector was less likely than the S&P 500 as a whole to say in proxy statements that race and/or gender was factored into director nominees—32.6 percent for the sector versus 37.2 percent for the S&P 500. For example:

- **M&T Bank** said in its proxy statement, "The Corporate Governance Standards provide that in discharging its duties of reviewing the qualifications of director nominees, the Nomination, Compensation and Governance Committee shall consider, among other factors, diversity, age, skills and experience in the context of the needs of the Board of Directors." It explained, "In light of this guideline, the Nomination, Compensation and Governance Committee endeavors to appoint a slate of nominees that represents diversity with respect to educational background, business experience, skills, geographic representation and community involvement, as well as gender, race and national origin." However, it noted, "The Nomination, Compensation and Governance Committee does not assign specific weights to any particular criteria…"

Pay links: The industry also was less inclined to tie executive pay to environmental (none versus 13.3 percent), social (16.3 versus 27.2 percent) or ethical (9.3 versus 10.7 percent) criteria than the S&P 500.

- In an example underscoring the importance of employee retention and development in the sector, **Ameriprise Financial** tied named executive officer annual bonuses to "developing and retaining key talent and strengthening engagement during a very challenging business environment." It had benchmarks, including an employee engagement index based on its annual survey, as well as employee retention rates, which it noted "remained high at the mid-to-upper 90 percent range."

Points: As noted earlier, the Banking and Investment Management sector came in fifth overall in Si2's assessment, with an average of 9.9 points, trailing the S&P 500 average of 17.5 points. The highest scorer in the sector was **Morgan Stanley**, which earned 33 points. It is profiled below.

Sector Profile: Morgan Stanley

Morgan Stanley is one of the world's largest investment banks and provides financial products and services to a large and diversified group of clients and customers, including corporations, governments, financial institutions and individuals. It is engaged in capital raising, financial advisory services, corporate lending, equity trading, fixed income and commodities markets, research and asset management. The financial crisis, including the implosion of markets for mortgage-backed securities, had profound effects on Morgan Stanley; the resulting litigation and ethics and risk management programs under scrutiny were key topics covered by the company in its disclosures. Morgan Stanley also offered information on its environmental, social, community development and public finance initiatives, as well as its employee programs to attract and retain talent in a competitive marketplace. Its sustainability report was completed using GRI 3.1, and Morgan Stanley self-declared a B reporting level for it.

Ethics: Morgan Stanley disclosed in its 10-K that it "is responding to subpoenas and requests for information from certain regulatory and governmental entities concerning the origination, financing, purchase, securitization and servicing of subprime and non-subprime residential mortgages and related matters such as residential mortgage backed securities (RMBS), collateralized debt obligations (CDOs), structured investment vehicles (SIVs) and credit default swaps backed by or referencing mortgage pass through certificates." It noted that these matters include "due diligence on the loans that it purchased for securitization, the Company's communications with ratings agencies…disclosures to investors, and…handling of servicing and foreclosure related issues." Multiple class actions are still pending covering numerous investors, including one representing Morgan Stanley employees alleging that the company's common stock was not a prudent investment and that risks associated with its common stock and its financial condition were not adequately disclosed as related to its investments in mortgage-backed securities.

Morgan Stanley also is involved in mortgage-related litigation with several companies, including:

- Citibank related to a credit default swap. The court ruled against Morgan Stanley, awarding $269 million plus post-judgment interest, but Morgan Stanley is appealing the case.
- Central Mortgage Company (CMC), alleging that "Morgan Stanley Mortgage Capital Holdings LLC improperly refused to repurchase certain mortgage loans that CMC, as servicer, was required to repurchase from the Federal Home Loan Mortgage Corporation and the Federal National Mort-

gage Association." The loans were valued at $4.1 billion and the case is still pending.

- Federal Home Loan Bank of Seattle regarding $233 million in mortgage pass-through certificates, another pending case.
- Federal Home Loan Bank of San Francisco, which includes other defendants, and alleges that Morgan Stanley and others "made untrue statements and material omissions in connection with the sale to plaintiff of a number of mortgage pass-through certificates backed by securitization trusts containing residential mortgage loans." One certificate in the case was valued at $704 million and the other $276 million.
- Cambridge Place Investment Management, which filed a suit against Morgan Stanley and other defendants, alleging that they "made untrue statements and material omissions in the sale of a number of mortgage pass-through certificates backed by securitization trusts containing residential mortgage loans." The certificates were valued at $242 million, of which $102 million was attributable to Morgan Stanley.
- Charles Schwab alleging that Morgan Stanley and other defendants "made untrue statements and material omissions in the sale to one of plaintiff's subsidiaries of a number of mortgage pass-through certificates backed by securitization trusts containing residential mortgage loans." The total amount of certificates was $180 million.
- China Development Industrial Bank relating to a $275 million credit default swap and alleging "fraud, fraudulent inducement and fraudulent concealment."
- Federal Home Loan Bank of Chicago waging two complaints against the company and other defendants accusing the defendants of making "untrue statements and material omissions in the sale to plaintiff of a number of mortgage pass-through certificates backed by securitization trusts containing residential mortgage loans." The certificates in the suits were valued at $278 million.
- Federal Home Loan Bank of Boston, filed against Morgan Stanley and other defendants, alleging that the "defendants made untrue statements and material omissions in the sale to plaintiff of certain mortgage pass-through certificates backed by securitization trusts containing residential mortgage loans." The certificates were valued at $550 million.
- Allstate Insurance Company, also regarding the sale of $104 million in mortgage pass-through certificates backed by securitization trusts containing residential mortgage loans.
- Western and Southern Life Insurance Company also surrounding mortgage pass-through certificates backed by securitization trusts containing residential mortgage loans valued at $153 million.
- Sealink Funding Limited also concerning mortgage pass-through certificates backed by securitization trusts containing residential mortgage loans valued at $556 million.
- Federal Housing Finance Agency, as conservator for Fannie Mae and Freddie Mac, filed 17 complaints against Morgan Stanley and other parties. One filed in the Supreme Court of the State of New York alleges that defendants "made untrue statements and material omissions in connection with the sale to Fannie Mae and Freddie Mac of residential mortgage pass-through certificates with an original unpaid balance of approximately $11 billion." The complaint also "raises claims under federal and state securities laws and common law and seeks, among other things, rescission and compensatory and punitive damages."
- Federal Deposit Insurance Corporation, as receiver for Franklin Bank, filed two complaints

against Morgan Stanley in connection with the sale to plaintiff of mortgage pass-through certificates backed by securitization trusts containing residential mortgage loans valued altogether at $102 million.

Morgan Stanley sought to assure investors in its 10-K that it had "established procedures that are designed to require that the Company's policies relating to conduct, ethics and business practices are followed globally." It said it "continuously develops various procedures addressing issues such as regulatory capital requirements, sales and trading practices, new products, potential conflicts of interest, structured transactions, use and safekeeping of customer funds and securities, credit granting, money laundering, privacy and recordkeeping." It also had "established procedures to mitigate the risk that a counterparty's performance obligations will be unenforceable, including consideration of counterparty legal authority and capacity, adequacy of legal documentation, the permissibility of a transaction under applicable law and whether applicable bankruptcy or insolvency laws limit or alter contractual remedies." Nonetheless, it noted, "the legal and regulatory focus on the financial services industry presents a continuing business challenge for the Company."

Product formulations: A major thrust of Morgan Stanley's sustainability report is its discussion of sustainable finance. It highlighted activities in three areas:

- **Environment**, including "promoting development of a low-carbon economy." Morgan Stanley notes that its investment banking franchise has helped clean technology companies raise $35 billion in funding since 2006, including $4 billion in 2011. In addition, its commodities trading business trades and structures transactions for carbon and other environmental commodities, including sulfur dioxide, nitrogen oxide, biodiesel and ethanol, and its equity research team offers insights into renewable energy and other environmentally friendly technologies and associated investments. Morgan Stanley also finances environmentally friendly buildings and efforts to retrofit older buildings to make them more energy efficient.
- **Social**, including "financing to low-income communities." Morgan Stanley notes it intermediated more than $700 million of microfinance securities, "facilitating access to capital for more than 30 microfinance-related entities around the world. It said it also is working to increase access to the "under-banked" in the United States.
- **Community development**, including affordable housing and economic development loans totaling more than $5.3 billion since 2006. Loans in 2011 will help create 10,000 affordable housing units and create 4,200 construction and permanent jobs in low-income communities. One key way Morgan Stanley gets involved is in helping state and municipal housing authorities access capital markets. Since 2007, it has underwritten $2.4 billion of municipal and state bonds to fund multi-family and single-family affordable housing.

In addition, Morgan Stanley negotiated the sale of more than 970 public financing initiatives totaling $122 billion since 2008, "helping to pay for new highways, hospitals, schools, water and sewer systems, museums, mortgages for first-time home buyers, student loans and environmental improvements."

It also noted that it has environmental and social risk policies that are part of its overarching, company-wide risk management process. For all transactions, it noted that it reviews "inherent environmental risks;" environmental and social risks inherent in particular industries; environmental management; compliance records; potential adverse effects on natural resource; and franchise and reputational risks. It also is a signatory to the Equator Principles and Carbon Principles. As part of these obligations, Morgan Stanley noted that it reviews projects for financing with careful consideration for risks to biodiversity; respect for and consultation with indigenous peoples; compliance with environmental agreements and regulations; and pollution prevention. Under no circumstances, it said, will it finance mountaintop removal coal mining operations. (This issue was raised in the 2013 proxy season at both PNC Financial and JPMorgan Chase.)

Climate change: In its 10-K filing, Morgan Stanley describes climate change risks related to its commodities activities, which expose it "to extensive regulation, potential catastrophic events and environmental risks and regulation that may expose us to significant costs and liabilities," including "regulatory, physical and certain indirect risks associated with climate change." It notes that it indirectly engages in the production, storage, transportation, marketing and trading of several commodities, including "metals (base and precious), agricultural products, crude oil, oil products, natural gas, electric power, emission credits, coal, freight, liquefied natural gas and related products and indices." It also is an electricity power marketer in the United States and an owner of power plants in the United States and Europe.

In its sustainability report, Morgan Stanley described investments it was making to achieve its goal of cutting its greenhouse gas emissions from its owned and leased property portfolio 15 percent by 2013 using 2006 as a baseline. To date, it said, it had implemented more than 100 energy conservation projects such as replacing outdated lighting fixtures and heating and air conditioning equipment, as well as installing lighting sensors, thermal storage systems and renewable energy applications. It also had focused attention on data centers and reviewing employee travel.

Waste management: Morgan Stanley had implemented recycling throughout its New York City area offices and had achieved a 50 percent recycling rate for all of its waste from these facilities. It has similar initiatives, including waste reduction projects, at its offices around the globe. It also instituted a policy to produce all of its prospectuses and shareholder reports on at least 20 percent recycled paper.

Water: Morgan Stanley said it had been reviewing water use at its facilities and installing low-flow water fixtures and making other investments to reduce use and costs.

Employment: In its 10-K, the company said, "Our people are our most important resource and competition for qualified employees is intense." It noted that to "attract and retain qualified employees, we must compensate such employees at market levels," which historically has made employee compensation its greatest expense. It warned, "If we are unable to continue to attract and retain highly qualified employees, or do so at rates necessary to maintain our competitive position, or if compensation costs required to attract and retain employees become more expensive, our performance, including our competitive position, could be materially adversely affected." It also noted that it was under "more stringent regulation of employee compensation, including limitations relating to incentive-based compensation, clawback requirements and special taxation, which could have an adverse effect on our ability to hire or retain the most qualified employees."

In its sustainability report, Morgan Stanley reviews numerous policies and programs designed to attract and retain valued employees. It conducts a companywide employee survey every two years to assess employees' views on their jobs, Morgan Stanley and management. The firm also said it has extensive learning and development opportunities for employees to advance their on-the-job performance, overall learning and career development, as well as performance incentive plans and benefits programs.

Diversity was another important part of Morgan Stanley's employment programs, it said, because this helps the company to attract "the best and brightest" and a workforce representing the diverse global community and markets in which it operates. The company also reviewed its health and safety programs, including ergonomics programs. And it described its emphasis on work-life balance and flexible working arrangements to meet specific needs of its employees, including flex-time, job sharing, compressed workweeks, telecommuting and reduced work schedules.

Board diversity: "While the Board has not adopted a policy regarding diversity," the company said in its proxy statement, "the Morgan Stanley Corporate Governance Policies (Corporate Governance Policies) provide that the Board will take into account diversity of a director candidate's perspectives, background and other relevant demographics."

Pay links: In its proxy statement, Morgan Stanley says that certain named executive officers had their annual incentive pay linked to performance in strengthening the company's "reputation and its relationship and constructive dialogues with its clients, shareholders and regulators." It also tied pay to communication "with employees at all levels of the organization on a regular basis to discuss the Company's views and strategy on a variety of business matters."

- **Insurance**

Like Banking and Investment Management companies, the Insurance sector was a below average reporter overall, and it had no truly integrated reporters. While companies in the sector were more inclined than Banking and Investment Management firms to say something on sustainability risks and opportunities, they were far less likely to use a standard such as GRI, and the result was a slightly larger number of reporters with shallower disclosures. However, the sector had a few areas of above average reporting, including on climate change risks in 10-K filings, and even some of the highest rates of disclosure—ethical risks in 10-Ks and annual financial reports. Within the sector, employment, environmental management and hazardous waste—through insured liabilities—were high points. *(See table below.)*

Notwithstanding these broader trends, Insurance firms were the fifth most likely to report environmental liabilities and contingencies, and 45.5 percent did so compared with 38 percent of the S&P 500. Again, most of these were related to insured risks where claims were being filed or contested. The industry also was the third most frequent to report other sustainability-related liabilities, with 63.6 percent of the companies in the sector doing so compared with 41.9 percent for the S&P 500.

Insurance	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	0.0%	0.0%				
Conflict Minerals	0.0%	0.0%				
Government Payments	0.0%	0.0%				
Climate Change	63.6%	9.1%	27.3%	4.5%	27.3%	27.3%
Environmental Management	40.9%	4.5%	50.0%	4.5%	22.7%	22.7%
Water Use	4.5%	0.0%	0.0%	0.0%	9.1%	9.1%
Hazardous Waste	50.0%	4.5%	36.4%	4.5%	0.0%	0.0%
Waste Management	0.0%	0.0%	0.0%	0.0%	22.7%	22.7%
Product Formulations	27.3%	9.1%	22.7%	9.1%	22.7%	22.7%
Employment	40.9%	18.2%	27.3%	18.2%	22.7%	22.7%
Human Rights	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ethics	54.5%	4.5%	45.5%	9.1%	9.1%	0.0%

Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.

Areas where this industry group posted the highest percentage among all industries are highlighted in red.

Source: Sustainable Investments Institute (Si2), Washington, DC

Ethics: The Insurance industry was the most likely to report ethical risks in 10-K filings and nearly 55 percent did so. This trend played out through annual reports, too, where nearly 46 percent reported risks to shareholders. Most information related to fraud and compliance with regulations. For example:

- **Ace** said in its 10-K that "employee error and misconduct may be difficult to detect and prevent and could adversely affect our business, results of operations, and financial condition." It added, "Losses may result from, among other things, fraud, errors, failure to document transactions properly, failure to obtain proper internal authorization, or failure to comply with regulatory requirements." While it had safeguards to deter or prevent employee misconduct, including having a code of ethics and associated training programs, it noted that "the precautions ACE takes to prevent and detect this activity may not be effective in all cases," and "resultant losses could adversely affect our business, results of operations, and financial condition."

- Similarly, **Marsh & McLennan** warned in its 10-K that its "compliance systems and controls cannot guarantee that we are in compliance with all potentially applicable U.S. federal and state or foreign laws and regulations, and actions by regulatory authorities or changes in legislation and regulation in the jurisdictions in which we operate may have an adverse effect on our business." It noted its activities were subject to extensive regulation in the United States and European Union. For example, it noted, "We are subject to regulation by foreign and domestic governments, regulatory agencies such as the SEC in the United States and the FSA in the United Kingdom, and self-regulatory organizations such as FINRA…"

  It said compliance was a "complex" issue for the company, and it, at times, "may increase our cost of doing business." It noted that this was true for anti-corruption laws such as the "U.S. Foreign Corrupt Practices Act and the UK Bribery Act 2010, local laws prohibiting corrupt payments to governmental officials, as well as various trade sanctions laws such as the various international legislative and regulatory requirements relating to trade with Iran."

  It also noted that compliance with Sarbanes-Oxley Act of 2002 and the Dodd-Frank Wall Street Reform and Consumer Protection Act was "costly." Marsh & McLennan concluded, "If we fail to comply with applicable laws and regulations, including those referred to above, we may be subject to investigations, criminal sanctions or civil remedies, including fines, injunctions, loss of an operating license or approval, increased scrutiny or oversight by regulatory authorities, the suspension of individual employees, limitations on engaging in a particular business or redress to clients."

  Data security and privacy was another ethical issue and risk for the company, and it said it maintained "policies, procedures and technological safeguards designed to protect the security and privacy" of "clients' confidential and proprietary information and the personal information of our employees, our individual customers, and our clients' employees and retirement and other benefit plan participants." Nonetheless, it added, "we cannot entirely eliminate the risk of improper access to or disclosure of personal information," and "such disclosure could harm our reputation and subject us to liability under our contracts, as well as laws and regulations, resulting in increased costs or loss of revenue." It also noted that data privacy "is subject to frequently changing laws, rules and regulations," and its "failure to adhere to or successfully implement processes in response to changing legal or regulatory requirements in this area could result in legal liability or impairment to our reputation in the marketplace, as well as the general risks described above relating to our compliance systems and controls."

- Meanwhile, **Unum Group** in its sustainability report reflected on the importance its code of conduct held in guiding its actions and decisions. It noted that ensuring employees conducted themselves properly with each other and customers, followed "sound business practices that ensure we comply with regulations and operate with accountability," and that keeping "medical and other private customer information confidential and secure" was all critical to its business performance.

Employment: As with other service industries relying on highly skilled employees, disclosures surrounding risks and opportunities were common, and the Insurance sector followed these trends. Nearly 41 percent had disclosures related to employment in 10-Ks and 18.2 percent did so in annual reports—an above average reporting area for the industry. For example:

- **Progressive** said in its 10-K, "Our ability to attract, develop, and retain talented employees, managers, and executives, and to maintain appropriate staffing levels, is critical to our success." Conversely, it noted, "Our loss of certain key officers and employees, or the failure to attract or develop talented executives and managers with diverse backgrounds and experiences, could have a materially adverse effect on our business." It noted that variables such as sales and claims volume and other factors complicated its forecasting for labor needs and presented challenges in adjusting its hiring and training programs and employment levels accordingly. "Our failure to recognize the need for such adjustments, or our failure or inability to react appropriately on a timely basis," it said, "could lead either to over-staffing (which would adversely affect our cost structure) or under-staffing (impairing quality and our ability to service our ongoing and new business) in one or more business units or locations." Either outcome, it noted, could hurt its financial results, customer relationships and brand.

- Meanwhile, **Aon** in its 10-K focused on risks related to its pension obligations, which it said "could adversely affect our stockholders' equity, net income, cash flow and liquidity." It explained, "To the extent that the pension obligations associated with our major plans continue to exceed the fair value of the assets supporting those obligations, our financial position and results of operations may be adversely affected." It noted there had been declines in interest rates in recent years, and the present value of its plans' liabilities had "increased faster than the value of plan assets, resulting in higher unfunded positions in several of our major pension plans." It planned to contribute $541 million to its major pensions in 2012, up from $477 million in 2011 and $189 million in 2010.

  Aon added that risks related to its assumptions for returns and other variables could lead to even higher costs going forward. Like Progressive, Aon also noted its success depended "on our ability to retain and attract experienced and qualified personnel, including our senior management team and other professional personnel." It further noted, "Competition for experienced professional personnel is intense, and we are constantly working to retain and attract these professionals. If we cannot successfully do so, our business, operating results and financial condition could be adversely affected."

- **Marsh & McLennan** focused on the results of its employee engagement survey in its sustainability report. It noted that following a strong response to the survey in 2009, it conducted a second survey in 2011, and saw its employee participation rate rise from 66 percent to 79 percent. It shared the results with employees and used them to start a dialogue over how to improve the workplace and overall performance.

  It also described its wellness initiatives aimed at helping its employees to "manage and improve their health," while contributing "to a reduction in the costs of care" for employees and the company and to "improve productivity and colleague engagement."

  It also provided employees with tools to improve their financial health, as well as career development and training opportunities, and had made investments in its employee communications systems to place all of these resources at their fingertips.

  Diversity and inclusion was another important area for the company, and it "introduced a comprehensive three-year diversity and inclusion strategy that incorporates a greater role for our senior leadership" and included the development of diversity councils and employee resource groups. It noted that these were important to its employee recruitment and retention efforts. "We aspire to be recognized by our clients, colleagues, communities and investors for the value we create," and, it said, "An engaged and inclusive workforce will make that aspiration a reality." It noted that it had developed partnerships to improve the recruitment of women and minorities and had donated to scholarship funds to improve the pipeline of talent from these communities into the Insurance sector. It also noted its top, 100 percent rating in the Human

Rights Campaign's annual Corporate Equality Index, *Black Enterprise Magazine's* recognition of the company in its 2011 Top Executives in Diversity ranking, and profiles in the *Diversity Journal* citing the company for its diversity and inclusion communications and innovation, as evidence of its good performance in this area.

Climate change: As noted above, Insurance companies were more likely than others to disclose climate change risks in 10-K filings, and nearly 64 percent did so. Most centered on risk management in hedging against potential claims and losses tied to extreme weather events and other trends related to climate change, as well as regulatory risks. For example:

- **Travelers** said in its 10-K, "The full range of potential liability exposures related to climate change continues to evolve," it was managing these risks through its Emerging Issues Committee and its Committee on Climate, Energy and the Environment, which work with business units and corporate groups "to identify and try to assess climate change-related liability issues." To date, "The effects of emerging claim and coverage issues on our business are uncertain." It added, "Climate change regulation also could increase the Company's customers' costs of doing business" in the areas of "carbon management regulatory requirements" and that they, therefore, "may have less available capital for investment in loss prevention and safety features which may, over time, increase loss exposures." It also said, "Increased regulation may result in reduced economic activity, which would decrease the amount of insurable assets and businesses."
- Similarly, **Prudential Financial** warned in its 10-K that "climate change, and its regulation, may affect the prospects of companies and other entities whose securities we hold and other counterparties, including reinsurers, and affect the value of investments, including real estate investments we hold or manage for others." It noted, "Our current evaluation is that the near term effects of climate change and climate change regulation on the Company are not material, but we cannot predict the long term impacts on us from climate change or its regulation."
- Uncertainty also was the central thrust of **Chubb**'s 10-K disclosure. It said, "We cannot predict the impact that changing climate conditions, including legal, regulatory and social responses thereto, may have on our business." It added, " Various scientists, environmentalists, international organizations, regulators and other commentators believe that global climate change has added, and will continue to add, to the unpredictability, frequency and severity of natural disasters (including, but not limited to, hurricanes, tornadoes, freezes, other storms and fires) in certain parts of the world." And, it noted, "In response to this belief, a number of legal and regulatory measures as well as social initiatives have been introduced in an effort to reduce greenhouse gas and other carbon emissions which may be chief contributors to global climate change."

  Still, Chubb added, "We cannot predict the impact that changing climate conditions, if any, will have on our results of operations or our financial condition," and "we cannot predict how legal, regulatory and social responses to concerns about global climate change will impact our business." It said it continued to "actively explore and analyze credible scientific evidence, including the potential impact of global climate change, that may affect our ability to manage exposure under the insurance policies we issue as well as the impact that laws and regulations intended to combat climate change may have on us."
- By contrast, **Ace** in its sustainability report said, "Climate change continues to be an important and serious issue for the global insurance industry because it is our business to provide security against many of the property-related risks posed by such change." It noted, "Natural catastrophes in the form of hurricanes, windstorms, flooding, drought and other weather-related events

may be increasing in both frequency and severity due to climate change." It pointed to floods in Thailand and Australia and severe storms in the United States, all significant causes of damage and insured loss from natural catastrophes, as part of its concerns, and pointed out the 2011 was the costliest year on record for the industry for insured losses. Moreover, it said, "As a major provider of crop insurance in the United States, ACE's coverage provides important support for farmers, particularly when crops are impacted by unusual climate conditions, such as the severe drought during 2012 in the Midwestern U.S."

Therefore, it said, "we continue to be at the forefront in addressing environmental issues and the implications of climate change for all areas of our business internally and externally," and it noted that it was "a pioneer in developing advanced environmental risk insurance solutions, including coverage for premises-based exposures, contractors and project pollution liability, and renewable energy and environmental cleanup projects," and it also was among the first to offer "green building consulting services and a property policy that enables rebuilding to greener standards after a loss."

It said it also was focused on its own carbon footprint, and it had achieved a 25 percent per employee reduction in global greenhouse gas emissions since 2006. It also noted that between 2006 and 2011, 80 percent of its vehicle fleet had been switched to more efficient vehicles, saving an estimated 66 metric tons of CO2-equivalent per year and approximately $200,000 in vehicle and fuel costs.

- **Progressive** also was focused on its carbon footprint and described in its sustainability report its efforts to use space more efficiently by offering flexible working arrangements to employees, reducing its surplus office space and cutting its overall real estate footprint in 2011 by 837,608 square feet. It also said it "installed equipment for a free-cooling system in one of our Cleveland locations in 2011…a process by which we use the low-temperature outdoor air to chill the water in our air conditioning systems," which resulted in "significant savings in energy use and costs." It also had "implemented electronic medical recordkeeping in Texas and Tampa with the hope to improve patient care and decrease our carbon footprint by producing less paper," and "installed variable frequency drives (VFD) at our Cleveland and Colorado Springs data centers," which optimize cooling of its equipment and reduced "energy consumption through our air conditioning units by about 80 percent at both data centers."

  Since 2007, Progressive said its energy efficiency efforts had saved 5,757,199 kWh in electric energy use representing a 25 percent reduction. It is working to improve the overall design of its facilities to optimize energy use, moving increasingly toward electronic communications, which had already saved it $3,651,406, and improving the fuel efficiency of its vehicle fleet.

Hazardous waste: Half of the Insurance industry disclosed risks related to environmental pollution and hazardous waste. Most pointed to risks related to insured losses in this area. For example:

- **Allstate** said, "The insurance industry is involved in extensive litigation regarding coverage issues arising out of the clean-up of waste sites by insured [potentially responsible parties under the EPA's Superfund programs] and the insured parties' alleged liability to third parties responsible for the clean-up." The Insurance industry, including Allstate, it said, "has disputed and is disputing many such claims." It noted, "Key coverage issues include whether Superfund response, investigation, and clean-up costs are considered damages under the policies; trigger of coverage; the applicability of several types of pollution exclusions; proper notice of claims; whether administrative liability triggers the duty to defend; appropriate allocation of liability among triggered insurers;

and whether the liability in question falls within the definition of an occurrence." Further, "Identical coverage issues exist for clean-up and waste sites not covered under Superfund."

It said differing legal interpretations complicate the picture, since "courts have been inconsistent in their rulings on these issues" and legislative reforms to correct these issues have been limited and slow to come. Therefore, it said, "Predicting claim expense relating to asbestos, environmental and other discontinued lines is inherently uncertain and may have a material effect on our operating results and financial condition." In addition, "the process of estimating asbestos, environmental and other discontinued lines liabilities is complicated by complex legal issues concerning, among other things, the interpretation of various insurance policy provisions and whether those losses are covered, or were ever intended to be covered, and whether losses could be recoverable through retrospectively determined premium, reinsurance or other contractual agreements." It added, "Asbestos-related bankruptcies and other asbestos litigation are complex, lengthy proceedings that involve substantial uncertainty for insurers. Actuarial techniques and databases used in estimating asbestos, environmental and other discontinued lines net loss reserves may prove to be inadequate indicators of the extent of probable loss." Finally, "Ultimate net losses from these discontinued lines could materially exceed established loss reserves and expected recoveries and have a material effect on our operating results and financial condition."

Environmental management: Themes from Allstate's disclosure on hazardous waste continued in disclosures on environmental management, also made by half of the industry; there was considerable overlap between the two areas. Many insurers gave descriptions of processes to mitigate these risks. For example:

- **Lincoln Financial** said in its 10-K that it routinely conducts "environmental assessments for real estate we acquire for investment and before taking title through foreclosure to real property collateralizing mortgages that we hold." It assured investors, "Although unexpected environmental liabilities can always arise, based on these environmental assessments and compliance with our internal procedures, we believe that any costs associated with compliance with environmental laws and regulations or any clean-up of properties would not have a material adverse effect on our results of operations."
- Similarly, **Met-Life** disclosed in its 10-K, "As an owner and operator of real property, we are subject to extensive federal, state and local environmental laws and regulations," as well as inherent risks "that there may be potential environmental liabilities and costs in connection with any required remediation of such properties." It also holds "equity interests in companies that could potentially be subject to environmental liabilities." It, too, routinely performed environmental assessments "with respect to real estate being acquired for investment and real property to be acquired through foreclosure." While it could not "provide assurance that unexpected environmental liabilities will not arise," it said, "[b]ased on information currently available to us, we believe that any costs associated with compliance with environmental laws and regulations or any remediation of such properties will not have a material adverse effect on our business, results of operations or financial condition." It listed several outstanding lawsuits and estimated $1 million in cleanup costs related to one case.

Product formulations: Several firms were addressing sustainability challenges through product formulations. For example:

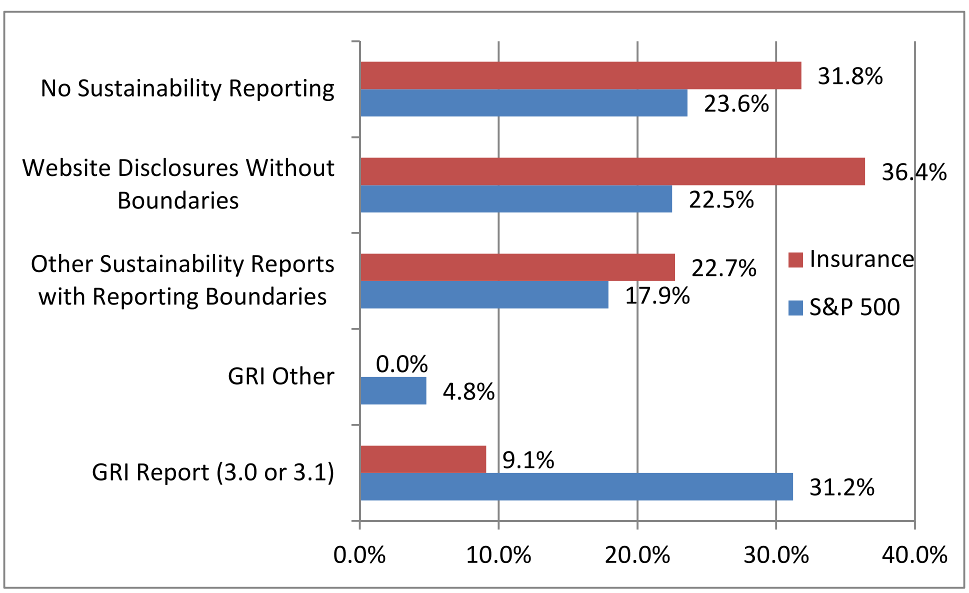
- **Aon** described in its sustainability report "a broad range of services that assist our clients in creating and maintaining sustainable and productive environments." It has a global team of environmental specialists working "with clients to identify, assess and address traditional environmental risks associated with business operations such as management of hazardous materials, clean-up of existing contamination, and due diligence processes for acquisition and divestiture of real estate."

  It also is addressing "emerging risks such as global warming, energy efficiency, and water conservation to ensure these issues do not adversely impact the financial performance of our clients." It explained, "Through such vehicles as insurance, financial mechanisms and liability buy-out programs, Aon minimizes the impacts of legacy environmental contamination; provides Green Building assessments and specialized energy efficiency insurance offerings; assists with carbon foot printing and securing greenhouse gas credits and off-sets; and provides insurance coverage for possible natural resource damages."

  Aon also helps clients evaluate their internal sustainability programs, using a sustainability report card that contains "metrics and benchmarking data to evaluate key areas of sustainable performance and gives clients guidance on areas where resources can be used most efficiently to advance their efforts." The system also "identifies opportunities where clients can benefit from new products, new markets and innovation in areas related to sustainability principles."

- Likewise, **Prudential Financial** detailed in its sustainability report its community investing programs that had invested more than $1 billion since 1976 in communities traditionally underserved by financial services firms. It said its investments had supported "projects that develop and preserve affordable housing, improve access to quality education, and connect neighborhoods and residents to mainstream economic opportunities." It noted, "By providing capital, Social Investments creates opportunities for disadvantaged communities" by preserving and supplementing at-risk affordable housing, creating secondary markets for community development loans, improving poor educational facilities, and generating jobs in high-density unemployment areas. Its Social Investments division also supported "nonprofits, CDCs, CDFIs, social enterprises, and community ventures whose mission and operations are broad and non-discriminatory, and whose activities address social needs or benefit underserved groups..."

Sustainability reporting: The Insurance industry was less inclined to engage in sustainability reporting than the S&P 500; only 68.2 percent did so compared with 76.4 percent for the index. When firms did so, they were far less apt to use the GRI's reporting guidelines, with only 9.1 percent in the sector referencing the standard compared with 36 percent for the S&P 500. *(See bar chart.)*



Financials in sustainability reporting: Of those engaged in reporting, none offered partial or consolidated financials with sustainability reporting, and only 12.5 percent gave readers some basic economic statistics on the company's overall financial impacts. The sector was the second least likely to include financials with sustainability reporting.

Board diversity: In an outlier in the industry's overall trends in sustainability reporting, Insurance firms were more likely than the broader S&P 500 to include board diversity statements in proxy filings, saying that race and/or gender were considerations in director nominations—45.5 compared with 37.2 percent. For example:

- **Chubb** said in its proxy statement that its governance committee factored "the diversity of the existing Board, so that we maintain a diverse body of directors, with diversity reflecting gender, ethnic background and geographic and professional experience" in selecting director nominees.

Pay links: Only 4.5 percent of the Insurance industry had executive pay links to social, environmental and/or ethical criteria, well below S&P 500 averages in all three categories.

Points: The Insurance industry average in Si2's assessment system—12.4 points—was below the 17.5 point average for the S&P 500. The top scorer was **American International Group**, profiled below.

Sector Profile: American International Group (AIG)

American International Group (AIG) is among the world's largest insurance organizations with customers in more than 130 countries. It serves commercial, institutional and individual customers through one of the most extensive worldwide property-casualty networks of any insurer. It also is a leading provider of life insurance and retirement services in the United States. AIG made headlines during the financial crisis for its role in creating a liquidity crisis in markets. It had been overexposed to mortgage-backed securities through holdings and, more importantly, derivatives in the form of insurance guarantees for these assets. Considered "too big to fail" and too critical of a player in financial markets, the Federal Reserve Bank of the United States and the U.S. Treasury bailed it out on several occasions beginning in 2008, providing it with financial support, financing and buying some of its mortgage-backed assets and guarantees to the tune of $182.3 billion. Since then, through asset sales and other actions by AIG, the Federal Reserve, and the U.S. Treasury, the U.S. government recovered its investment plus a combined positive return of $22.7 billion. The U.S. Treasury continues to hold warrants to purchase approximately 2.7 million shares of AIG common stock, the sale of which is expected to provide an additional positive return to taxpayers. (AIG dedicates a portion of its website thanking taxpayers, explaining how government funding was used, and detailing the returns taxpayers received for their investments and other assistance to AIG during the financial crisis.)

AIG also stands out in the group of companies profiled by Si2; it is the only one across 20 industry sectors not to have produced a sustainability report. (It does have a section of its website dedicated to its corporate governance and ethics, as well as information on its philanthropic activities.) But AIG surpassed other insurers in racking up points in Si2's evaluation by its extensive disclosures, at least compared to others in the industry, in its 10-K filing and annual report. Its disclosures focused on ethical considerations, mostly related to lawsuits surrounding allegations of fraud and accounting and financial reporting irregularities; hazardous waste and environmental considerations, mostly centered on asbestos and other environmental claims; climate change risks; and risks related to employee retention.

Ethics: AIG warned shareholders in its 10-K filing that "losses may result from, among other things, fraud, illegal acts, errors, failure to document transactions properly or to obtain proper internal authorization or failure to comply with regulatory requirements or our internal policies." In fact, it acknowledged, "There have been a number of highly publicized cases involving fraud or other misconduct by employees in the financial services industry in recent years, and we run the risk that employee misconduct could occur." It concluded, "It is not always possible to deter or prevent employee misconduct, and the controls that we have in place to prevent and detect this activity may not be effective in all cases." It described numerous lawsuits related to ethical lapses in its 10-K filing, including:

- On May 24, 2010, Transatlantic Holdings and two of its subsidiaries "commenced an arbitration proceeding before the American Arbitration Association in New York against AIG and two of its subsidiaries," alleging "breach of contract, breach of fiduciary duty, and common law fraud in connection with certain securities lending agency agreements…" The plaintiffs say that AIG "should be liable for the losses…suffered in connection with securities lending and investment activities, and seek damages of $350 million and other unspecified damages." Transatlantic later increased its claim to $500 million. At the same time, AIG has a claim against Transatlantic for breach of contract for which it is seeking $22.8 million in damages. The case is now in mediation, but AIG has agreed to pay Transatlantic between $45 and $125 million.
- On February 25, 2010, two individuals filed a complaint in the United States District Court for the Southern District of California asserting "claims on behalf of the United States against AIG and certain other defendants, including Goldman Sachs and Deutsche Bank, under the False Claims Act. The suit alleges that the "defendants engaged in fraudulent business practices in respect of their activities in the over-the-counter market for collateralized debt obligations, and submitted false claims to the United States in connection with the FRBNY Credit Facility and the Maiden Lane Interests through, among other things, misrepresenting AIG's ability and intent to repay amounts drawn on the FRBNY Credit Facility, and misrepresenting the value of the securities that the Maiden Lane Interests acquired from AIG and certain of its counterparties." The suit seeks unspecified damages and is set for trial.
- AIG said it reached a resolution of claims and matters under investigation with the United States Department of Justice (DOJ), the Securities and Exchange Commission (SEC), the Office of the New York Attorney General (NYAG) and the New York State Department of Insurance (DOI) in February 2006. "The settlements resolved investigations conducted by the SEC, NYAG and DOI in connection with the accounting, financial reporting and insurance brokerage practices of AIG and its subsidiaries, as well as claims relating to the underpayment of certain workers' compensation premium taxes and other assessments," AIG said, but they did not "resolve investigations by regulators from other states into insurance brokerage practices related to contingent commissions and other broker-related conduct, such as alleged bid rigging."

  As a result of these settlements, AIG said it made payments or placed amounts in escrow in 2006 approximately $1.64 billion, $225 million of which represented fines and penalties. In addition to the escrowed funds, AIG also deposited $800 million in a fund supervised by the SEC to resolve claims against AIG by investors, including the securities class action and shareholder lawsuits described below. Another $597 million is being held in escrow to settle class-action liabilities related to workers' compensation premium reporting issues.
- As noted above, AIG's 2006 regulatory settlements with the SEC, DOJ, NYAG and DOI did not resolve investigations by regulators from other states into insurance brokerage practices. AIG said it "entered into agreements effective in early 2008 with the Attorneys General of the States of

Florida, Hawaii, Maryland, Michigan, Oregon, Texas and West Virginia; the Commonwealths of Massachusetts and Pennsylvania; and the District of Columbia; as well as the Florida Department of Financial Services and the Florida Office of Insurance Regulation, relating to their respective industry-wide investigations into producer compensation and insurance placement practices." The settlements total $26 million, and a subsequent settlement with Ohio in 2010 cost AIG $9 million.

- A group of public retirement systems and pension funds benefiting Ohio state employees filed a securities fraud class action suit against AIG in October 2004 in the Southern District of New York, alleging that AIG "(i) concealed that it engaged in anti-competitive conduct through alleged payment of contingent commissions to brokers and participation in illegal bid-rigging; (ii) concealed that it used "income smoothing" products and other techniques to inflate its earnings; (iii) concealed that it marketed and sold "income smoothing" insurance products to other firms; and (iv) misled investors about the scope of government investigations. In addition, the lead plaintiff alleges that Maurice R. Greenberg, AIG's former Chief Executive Officer, manipulated AIG's stock price." AIG agreed to a $725 million settlement in the case, which is awaiting court approval. It settled a similar suit with Florida pension funds for $4 million.
- AIG said a group of policyholders in 2004 "brought multiple federal antitrust and Racketeer Influenced and Corrupt Organizations Act (RICO) class actions in jurisdictions across the nation against insurers and brokers, including AIG and a number of its subsidiaries, alleging that the insurers and brokers engaged in one or more broad conspiracies to allocate customers, steer business, and rig bids." The suits include 24 complaints filed in different federal courts naming AIG or an AIG subsidiary as a defendant. AIG has agreed to settle some of the suits and many are still pending.

Hazardous waste: AIG noted in its 10-K, "The estimation of loss reserves relating to asbestos and environmental claims on insurance policies written many years ago is subject to greater uncertainty than other types of claims due to inconsistent court decisions as well as judicial interpretations and legislative actions that in some cases have tended to broaden coverage beyond the original intent of such policies and in others have expanded theories of liability." In addition, it said, "reinsurance recoverable balances relating to asbestos and environmental loss reserves are subject to greater uncertainty due to the underlying age of the claim, underlying legal issues surrounding the nature of the coverage, and determination of proper policy period." As such, it noted, "these balances tend to be subject to increased levels of disputes and legal collection activity when actually billed." It explained that, at times, assigning responsibility for asbestos and other environmental claims is not clear cut.

It added, "The insurance industry as a whole is engaged in extensive litigation over these coverage and liability issues and is thus confronted with a continuing uncertainty in its efforts to quantify these exposures." As a result, "AIG continues to receive claims asserting injuries and damages from toxic waste, hazardous substances, and other environmental pollutants and alleged claims to cover the cleanup costs of hazardous waste dump sites..." As AIG said, most of the liabilities associated with asbestos are from "many years ago," and almost all of them predate 1984. AIG said it began planning for these contingencies more than two decades ago by establishing a "specialized toxic tort claims unit, which historically investigated and adjusted all such asbestos claims." In the fourth quarter of 2010, AIG said, "management conducted its more in-depth comprehensive loss-reserve review with the assistance of its third-party actuary…to determine the appropriate loss reserve estimate for its asbestos exposures…" It added that "management believes that the accuracy of the reserve estimate is greatly enhanced through the combination of the third-party actuarial firm's industry modeling techniques and industry knowledge and management's specific account-level experience." Also more than two decades ago, AIG established a "specialized environmental claims unit, which investigates and adjusts all such environmental claims," as well as "evaluates these environmental claims utilizing a claim-by-claim approach that involves a detailed review of individual policy terms and exposures." The unit, it said, "actively manages and pursues early resolution with respect to these claims in an attempt to mitigate its exposure to the unpredictable development of these claims." Its total reserves exceeded $91 billion at the end of 2011.

Climate change: AIG said in its 10-K filing, "Climate change and related regulatory initiatives may increase both the frequency and severity of claims or the cost of defending such claims." However, it noted, its Chartis operation's policies are primarily written for periods of 12 months, providing Chartis with the ability to modify underwriting practices and pricing procedures, thus "limiting the financial impact of such increase in claims." It noted that "each line of business and many individual policyholders may have different exposures to the effects of climate change." However, in general, it said, "The majority of policies exposed to catastrophic events are one-year contracts allowing AIG to quickly adjust its exposure to catastrophic events if climate changes or other events increase the frequency or severity of catastrophes."

Employment: In its 10-K filing, AIG lists its "ability to retain and motivate its employees" as a risk. It said regulations, including the American Recovery and Reinvestment Act of 2009, which "restrict bonus and other incentive compensation payable to certain AIG employees," may hinder its efforts. It said that it had historically "embraced a pay-for-performance philosophy," but "based on the limitations placed on incentive compensation, it is unclear whether, for the foreseeable future, we will be able to create a compensation structure that permits us to attract talent and retain and motivate our most senior and most highly compensated employees and other high performing employees who become subject to such limitations." It concluded, "The restrictions on our ability to attract talent and retain and motivate our highest performing employees may affect our ability to strengthen our businesses and prepare and make required filings in a timely manner with the SEC and other federal, state and foreign regulators."

Board diversity: AIG said in its proxy statement that its "Nominating and Corporate Governance Committee considers diversity in terms of minority status and gender as factors in evaluating director candidates and also considers diversity in the broader sense of how a candidate's experience and skills could assist the Board in light of the Board's then composition."

Pay links: None.

• Real Estate

Encompassing real estate investment trusts, real estate development firms, property management firms and a few large holders of real estate, including a timber company, an energy producer and distribution firm, and a public storage company, the Real Estate sector, like its other financial services counterparts including banks, investment management firms and insurance companies, was a below average reporter overall and included no truly integrated reporters. While the sector was more apt to produce sustainability reports than the S&P 500 (87.5 versus 76.4 percent), few (12.5 percent) issued reports referencing GRI, and the industry scored an average of 11.3 points in Si2's assessment, significantly less than the 17.5 average for the S&P 500 as a whole.

The Real Estate sector also was the fourth least likely sector to disclose environmental liabilities (12.5 versus 38 percent for the S&P 500) and contingencies and was the least frequent to include information on other sustainability-related liabilities (6.3 versus 41.9 percent for the S&P 500). Still, Real Estate companies stood out in a few areas, including disclosures on hazardous waste, for which it tied for the top spot, as well as opportunities related to environmental management, water use and waste management. Within the sector, climate change was another area with higher rates of disclosure. *(See table below.)*

Real Estate	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	0.0%	0.0%				
Conflict Minerals	0.0%	0.0%				
Government Payments	0.0%	0.0%				
Climate Change	43.8%	0.0%	37.5%	12.5%	43.8%	43.8%
Environmental Management	43.8%	25.0%	31.3%	25.0%	81.3%	81.3%
Water Use	18.8%	12.5%	18.8%	18.8%	0.0%	0.0%
Hazardous Waste	100.0%	0.0%	62.5%	0.0%	6.3%	0.0%
Waste Management	18.8%	6.3%	6.3%	6.3%	18.8%	18.8%
Product Formulations	0.0%	0.0%	0.0%	0.0%	6.3%	6.3%
Employment	6.3%	0.0%	0.0%	0.0%	12.5%	12.5%
Human Rights	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ethics	6.3%	0.0%	6.3%	0.0%	18.8%	12.5%

Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.

Areas where this industry group posted the highest percentage among all industries are highlighted in red.

Source: Sustainable Investments Institute (Si2), Washington, DC

Hazardous waste: All of the firms in the sector had something to say about hazardous waste risks. These spanned from the more mundane hazards of owning properties with legacy remediation issues or minor spills related to heating and cooling equipment to more extensive issues for the operators of businesses outside of the scope of property management and development. For example:

- **Integrys Energy Group** in its 10-K filing revealed that its "natural gas utilities, their predecessors, and certain former affiliates operated facilities in the past at multiple sites for the purpose of manufacturing and storing manufactured gas" had produced waste materials that "resulted in soil and groundwater contamination…" It said that "under certain laws and regulations relating to the protection of the environment, our natural gas utilities are required to undertake remedial action with respect to some of these materials" and were "coordinating the investigation and cleanup of the sites subject to EPA jurisdiction under what is called a multi-site program," involving "prioritizing the work to be done at the sites, preparation and approval of documents common to all of the sites, and use of a consistent approach in selecting remedies."

It said its natural gas utilities are responsible for the environmental remediation of 54 sites, of which 20 have been transferred to the EPA Superfund Alternative Sites Program, and Integrys had "estimated and accrued for $613.7 million of future undiscounted investigation and cleanup costs for all sites." It added, "Management believes that any costs incurred for environmental activities relating to former manufactured gas plant operations that are not recoverable through contributions from other entities or from insurance carriers have been prudently incurred and are, therefore, recoverable through" charges for natural gas. Therefore, the company did not expect the costs to be material to its financial statement going forward.

- Meanwhile, **Public Storage** said in its 10-K that as "an owner and operator of real properties, we may be required by law to clean up hazardous substances at our properties." It warned that laws "impose liability whether or not the owner knew of, or was responsible for, the presence of the hazardous substances," and "liability is usually not limited to the value of the property." It also noted, "The presence of these substances, or the failure to properly remediate any resulting contamination, also may adversely affect our ability to sell, lease, operate, or encumber affected facilities."

  It assured investors that it had "evaluated the environmental condition of, and potential liabilities associated with, most of our properties by conducting preliminary environmental assessments," which generally include "an investigation of environmental conditions at the property (not including soil or groundwater sampling or analysis), as well as a review of publicly available information regarding the site and other properties in the vicinity." It said its investigations had uncovered instances where contamination to the soil or groundwater at its properties had occurred, and it "may attempt to obtain purchase price adjustments, indemnifications or environmental insurance coverage" to cover for these and any future cases. Nonetheless, it warned, "We cannot assure you that such protections, if obtained, will always be sufficient to cover actual future liabilities nor that our assessments have identified all such risks."

- Similarly, **Ventas** disclosed in its 10-K that "as an owner of real property, we are subject to various federal, state and local laws and regulations regarding environmental, health and safety matters," including laws and regulations regarding "asbestos, polychlorinated biphenyls, fuel oil management, wastewater discharges, air emissions, radioactive materials, medical wastes, and hazardous wastes…" It noted that "the costs of complying with these laws and regulations and the penalties for non-compliance can be substantial," and "such costs typically are not limited by law or regulation and could exceed the property's value." However, it said it "did not make any material capital expenditures in connection with environmental, health, and safety laws, ordinances and regulations in 2011," and does "not expect that we will be required to make any such material capital expenditures during 2012."

- By contrast, **Boston Properties** in its sustainability report discussed an opportunity in this area related to its "green cleaning" requirement with its vendors "to minimize the impact of cleaning products on the environment." The requirement, it said, includes "using GreenSeal approved cleaning products, HEPA (high efficiency particle air) vacuums, dry cleaning for carpets and restroom supply products made from recycled materials." It noted that the program held "benefits both the janitorial workers within our buildings as well as our tenants because the cleaning methods and products used do not include toxic cleaning chemicals that can cause respiratory and dermatological problems."

Environmental management: More than 80 percent of the Real Estate firms discussed environmental management in some capacity. Again, disclosures varied widely between pure property development and management companies and those engaged in other activities, such as energy generation or forestry. For example:

- **Plum Creek Timber** said in its 10-K that it believed that "environmentally sound management practices contribute to our growth in value by providing greater predictability in the management of our assets." It noted that it followed the principles in the Sustainable Forestry Initiative program (SFI), "which are aimed at the sound management of all natural resources, including soils, air, watersheds, fisheries and wildlife habitats," and it said that its forestry practices had been independently audited and certified under the SFI program at all of its properties spanning more than 1.2 million acres. Plum Creek said it viewed its timberlands "as assets with substantial inherent value and strive to manage them in an economically prudent and environmentally responsible manner to enhance their value" by "improving the productivity of our forests, controlling harvesting costs, and sorting and merchandising logs to obtain their highest value."
- Meanwhile, **CBRE Group** described in its sustainability report its environmental management systems designed to maximize the "value of green buildings and practices." It noted it had collaborated with leading academics and industry partners on research into this area, which had included developing a framework for investment criteria for retrofit activity in buildings. It added, "Leading indicators continue to support the idea that sustainable buildings generate stronger investment returns than traditional managed properties." It pointed to one of the studies it sponsored of more than 2,500 building occupants and approximately 150 CBRE- office buildings that are Energy Star and/or LEED certified, which "revealed that green building performance continues to trend higher than the general market, establishing a clear economic case for the value of sustainable practices in existing commercial buildings." In particular, it said, "Aggregated data on LEED certified buildings over three years showed an average 3.1 percent improvement in both rental rates and building occupancy in comparison to the general market" and had reduced energy costs for tenant space by 21 percent on average, boosting profits.
- Likewise, **Apartment Investment & Management** said in its sustainability report that its "dedicated environment and conservation team systematically inspects each of [the company's] nearly 800 properties to find opportunities to reduce energy and water consumption, greenhouse gas emissions, and utility costs." It said that during 2010 it invested $5 million in energy conservation projects at 150 apartment communities. It also said it was investing in cogeneration technology, also known as combined heat and power (CHP), and had installed CHP systems in three of its Philadelphia apartment buildings, providing residents with electricity, hot water, and heat from one fuel source. It said it expected the CHP systems "to be 250 percent more efficient than traditional centralized electric power stations" and "reduce carbon emissions by 2,500 tons." Due to this initial success, the company said it was investigating applications at other properties.

Climate change: Almost 44 percent of the Real Estate firms discussed climate change. While many talked about risks to regulation, about an equal amount also talked about opportunities on their properties to increase energy efficiency, reduce costs and bolster profits. However, as with other issues, the companies with more extensive operations beyond property development and management had more complex risks related to climate change. For example:

- **Integrys Energy Group** warned in its 10-K that it "may incur significant costs if laws or regulations are adopted to address climate change." It observed, "Political interest in climate change and the effects of greenhouse gas emissions, most notably carbon dioxide, are a concern for the energy industry." While "no legislation is currently pending that would affect us, state or federal legislation could be passed in the future to regulate greenhouse gas emissions." It also pointed out that the EPA had "adopted regulations under the Clean Air Act (CAA) that apply to permitting new or significantly modified facilities" and also had "announced its intent to develop new source performance standards for greenhouse gas emissions." The standards, Integrys said, "would apply to new and modified, as well as existing, electric utility steam generating units." However, it said, until rules were finalized the impact on its business "remains unclear."

  Nonetheless, Integrys continued, "It is possible that future carbon regulation will increase the cost of electricity produced at coal-fired generation units" and "may also affect the capital expenditures we would make at our generation units, including costs to further limit the greenhouse gas emissions from our operations through carbon capture and storage technology." Furthermore, it said, "Any such regulation may also create substantial additional costs in the form of taxes or emission allowances and could also affect the availability or cost of fossil fuels" and "could make some generating units uneconomical to maintain or operate and could impact future results of operations, cash flows, and financial condition if such costs are not recoverable through regulated rates."

  For its operations, it said, the risks were linked to its natural gas delivery systems, which "generate fugitive gas as a result of normal operations and as a result of excavation, construction, and repair of natural gas delivery systems." It noted, "Fugitive gas typically vents to the atmosphere and consists primarily of methane, a greenhouse gas." In addition, carbon dioxide also is "a byproduct of natural gas consumption" and its energy generation equipment. As a result, it said, "future legislation to regulate greenhouse gas emissions could increase the price of natural gas, restrict the use of natural gas, adversely affect our ability to operate our natural gas facilities, and/or reduce natural gas demand, which could have a material adverse impact on our results of operations and financial condition."

  It also highlighted that the majority of its generation and distribution facilities are located in the upper Midwest region of the United States, and the "physical risks posed by climate change for these areas are not expected to be significant at this time."

- By contrast, **Boston Properties** said in its 10-K, "We face possible risks associated with the physical effects of climate change," but "we cannot predict with certainty whether climate change is occurring and, if so, at what rate." Nonetheless, it said, "the physical effects of climate change could have a material adverse effect on our properties, operations and business." For example, it noted, "many of our properties are located along the East and West coasts, particularly those in the Central Business Districts of Boston, New York, and San Francisco." Therefore, "to the extent climate change causes changes in weather patterns, our markets could experience increases in storm intensity and rising sea-levels," which could over time "result in declining demand for office space in our buildings or the inability of us to operate the buildings at all."

  In addition, it noted, "Climate change may also have indirect effects on our business by increasing the cost of (or making unavailable) property insurance on terms we find acceptable, increasing the cost of energy and increasing the cost of snow removal at our properties."

- **ProLogis** focused on mitigation efforts in its sustainability report, saying "a key outcome of our efforts to develop sustainable buildings and to upgrade our buildings is to reduce the carbon footprint of our property portfolio." These efforts included a goal of 20 percent lower energy use and greenhouse gas emissions. It also said its renewable energy team had completed extensive research and identified $2.6 billion in rooftop solar projects for funding, including 700 megawatts of solar projects on Prologis rooftops over the next four years. Its projects "generate revenue by developing solar arrays and leasing our rooftops under long-term contracts to major utilities," it noted.

Other benefits, it said, included its belief that "actively addressing the carbon impacts of our operations and products will, over the long term, support increased customer loyalty and help us maintain good community relations." Furthermore, it said, it also saw "effective management and disclosure of our carbon emissions being increasingly important for attracting investors for our current and future investment funds."

- Likewise, **HCP** said in its sustainability report that it had "increased the number of buildings benchmarked in the Energy Star Portfolio Manager from 166 in July 2009 to 398 in December 2011 by expanding the program into our Life Science and Senior Housing portfolios." The progress, it noted, has reduced energy consumption by 3 percent 2011 and 13 percent since inception of the program in 2007. The program also decreased utility expenses by $1.4 million on a same-property basis versus 2010.
- **Vornado Realty Trust** also described in its sustainability report the use of combined heat and power (CHP or cogeneration) at its properties, which it said held many "compelling" advantages, including "the delivery of power with increased efficiency and a lower carbon footprint, and the ability to provide back-up power to tenants while relieving utility grid constraints." It noted that its 6.2 megawatt project at One Penn Plaza in New York commenced operation in 2010 and now provides "up to 60 percent of the building's electricity and offsets up to 30 percent of the building's steam requirement, making it one of the largest existing cogeneration projects to be integrated into an existing New York City office building." Vornado also had initiated its first solar project in 2011, a 900 kilowatt project at Bergen Town Center in New Jersey.

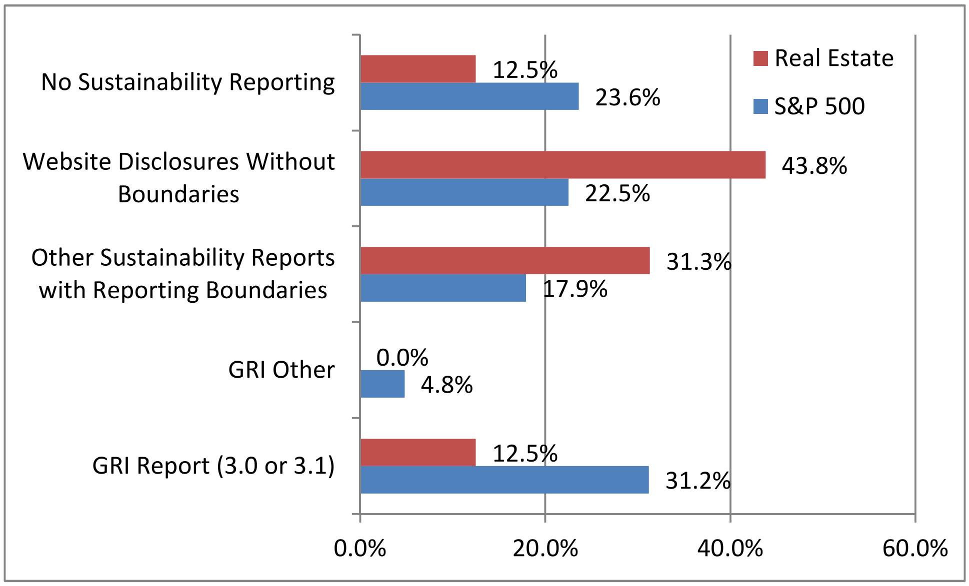
Waste management: Almost a fifth of the Real Estate firms talked about waste management, mostly surrounding recycling programs. For example:

- **Boston Properties** in its sustainability report noted that it had "worked with its tenants to implement recycling programs for tenant solid waste in all of our regions and as a result more than 40 percent of office waste by weight is recycled across our portfolio." It highlighted that it also had worked "closely with our vendors and tenants to promote…restaurant composting and responsible waste management practices." It said it was working on implementing single stream recycling programs to bolster recycling rates in its properties and reduce waste, which it said also cut costs for its operations.
- Likewise, **Kimco Realty** in its sustainability report said its "waste-management initiatives seek to address shopping center and tenant waste through a single solution that streamlines and right-sizes service levels, significantly reducing truck traffic required to service each property." Additionally, it said, "we are working together with tenants and communities to identify and solve property-specific waste management needs with the long-term vision of increasing recycling and reducing waste to landfill." It said decreasing waste streams from properties was a priority also in reducing operating expenses.

Water use: Approximately a fifth of the Real Estate sector talked about water use. For example:

- **Boston Properties** said in its sustainability report that it was "upgrading our water treatment, plumbing and irrigation operations and installing low flow bathroom fixtures" and had monitored and benchmarked "water usage in buildings where we have access to water meter data." It said its property portfolio had an average water use of 19.5 gallons per square foot in 2010, up 10 percent from 17.7 gallons per square foot in 2009. It explained that the "metrics are not adjusted to reflect variations caused by different weather conditions, and that in 2010 many of our regions had near record high average temperatures and heat waves, resulting in higher water demand for HVAC and landscape irrigation." Nonetheless, it said it was continuing to monitor water use and to make investments to reduce usage and costs for its properties.

Sustainability reporting: Real estate companies were far more likely to take part in sustainability reporting than their counterparts in the S&P 500. As noted earlier, 87.5 percent had done so compared with 76.4 percent for the S&P 500. However, few referenced GRI in reports (12.5 percent versus 36 percent for the S&P 500), and the sustainability reporting in the sector was brief and lacked the depth of many other sectors. *(See bar chart.)*



Financials in sustainability reporting: Despite the high levels of sustainability reporting in the sector, none coupled consolidated or full financials with their sustainability reporting, and only 14.3 percent included economic overviews. The industry was the third least likely to include financials with sustainability reporting.

Board diversity: The Real Estate sector was the fifth least likely to have board diversity disclosures stating that gender and/or race was a factor in director nominations. Only 18.8 percent did, compared with 37.2 percent of the S&P 500. For example:

- **ProLogis** said in its proxy statement that its corporate governance committee considered "diversity of the board in identifying director nominees, including race, gender, geographical diversity, and diversity in experience, professional background, areas of expertise and industries of the candidate." It added, "We believe that the diverse constituency and experience of the board lends to excellent oversight of the company that best serves our stockholders."

Pay links: Real estate companies were less inclined to link executive pay to environmental factors than the S&P 500 (12.5 versus 13.3 percent), as well as social criteria (12.5 versus 27.2 percent). However, the sector beat the index on ethical criteria (18.8 versus 10.7 percent). For example:

- **CBRE Group** linked one executive's annual bonus to "continued integrity of and effective controls on global finance" including effective reports to shareholders.
- **AvalonBay Communities** tied the annual bonus of a named executive officer to "providing leadership on the corporate sustainability initiative."

Points: The Real Estate sector scored an average of 11.3 points in Si2's assessment, lagging the S&P 500 by more than six points (17.5 percent). The top scorer for the sector was **Equity Residential**, and it is profiled below.

Sector Profile: Equity Residential

Equity Residential acquires, develops and manages apartment properties. It owns or has investments in more than 400 properties in 14 states and the District of Columbia. It did not issue a standalone sustainability report with reporting boundaries, including a timeframe, but it dedicated a portion of its website to these topics. Like many other in the sector, Equity Residential was focused on efforts to improve energy efficiency, cut water use and mitigate waste-related risks at its properties.

Climate change: In its 10-K filing, Equity Residential said, "To the extent that climate change does occur, we may experience extreme weather and changes in precipitation and temperature, all of which may result in physical damage or a decrease in demand for properties located in these areas or affected by these conditions." It added, "Should the impact of climate change be material in nature, including destruction of our properties, or occur for lengthy periods of time, our financial condition or results of operations may be adversely affected." Further, "Changes in federal and state legislation and regulation on climate change could result in increased capital expenditures to improve the energy efficiency of our existing properties and could also require us to spend more on our new development properties without a corresponding increase in revenue."

Equity Residential is working on energy efficiency. It noted in the sustainability section of its website that it had partnered with local utilities to install $5 million worth of energy and water conservation installations at 30,000 of its apartments at no cost to the company. In addition to lowering its residents' utility bills, the efforts also cut its own operating costs. Equity Residential also said it sought to reduce energy and water usage "by investing in energy saving technology while positively impacting the experience of our residents and the value of our assets" through "a combination of irrigation, lighting and HVAC improvements at our properties that will reduce energy and water consumption." For example, it said it was installing Energy Star-rated appliances in its apartments, programmable thermostats, as well as compact fluorescent bulbs and LED lighting to further reduce utility bills and reduce its own costs.

Water use: In addition to the partnerships with utilities and other investments described above, Equity Residential said that all of its properties had installed dual flush toilets in its bathrooms and smart watering systems on property grounds to save water and money.

Hazardous waste: In its 10-K filing, Equity Residential warned that environmental problems were possible at its properties and held the potential to be "costly." It noted that "state and local laws and regulations relating to the protection of the environment may require a current or previous owner or operator of real estate to investigate and clean up hazardous or toxic substances or petroleum product releases at such property," and "the owner or operator may have to pay a governmental entity or third parties for property damage and for investigation and clean-up costs incurred by such parties in connection with the contamination." These laws, it added, "typically impose clean-up responsibility and liability without regard to whether the owner or operator knew of or caused the presence of the contaminants." It assured investors that "substantially all" of its properties had "been the subject of environmental assessments completed by qualified independent environmental consulting companies," and none had revealed any "environmental liability that our management believes would have a material adverse effect on our business, results of operations, financial condition or liquidity…"

However, it did note an "increasing number of lawsuits against owners and managers of multifamily properties alleging personal injury and property damage caused by the presence of mold in residential real estate," and that "some of these lawsuits have resulted in substantial monetary judgments or settlements." At the same time, in light of this trend, "insurance carriers have reacted by excluding mold-related claims from standard policies and pricing mold endorsements at prohibitively high rates." It said it had "adopted programs designed to minimize the existence of mold in any of our properties as well as guidelines for promptly addressing and resolving reports of mold to minimize any impact mold might have on our residents or the property, should mold become an issue in the future, our financial condition or results of operations may be adversely affected." Nonetheless, it said, it might have significant future liabilities in this area.

Waste management: In the sustainability section of its website, Equity Residential noted that its apartment buildings and offices "recycle everything from paper to plastic to boxes and bottles." It also noted that it was incorporating recycled and eco-friendly materials into its buildings, including carpets made of recycled materials.

Employment: In its sustainability reporting, Equity Residential highlighted, "A richly diverse work environment captures the top talent, cultivates the best ideas, and creates the widest possible platform for success."

Ethics: In its 10-K filing, Equity Residential disclosed a housing discrimination lawsuit brought by a non-profit civil rights organization in April 2006 in the U.S. District Court for the District of Maryland. The suit alleges that the company "designed and built approximately 300 of its properties in violation of the accessibility requirements of the Fair Housing Act and Americans With Disabilities Act" and "seeks actual and punitive damages, injunctive relief (including modification of non-compliant properties), costs and attorneys' fees." Equity Residential reported that it had "a number of viable defenses, including that a majority of the named properties were completed before the operative dates of the statutes in question and/or were not designed or built by the Company." Therefore, it was defending itself vigorously against the claims.

Board diversity: The company's proxy statement said that its Guidelines on Governance set forth that the board "values diversity, in its broadest sense, reflecting, but not limited to, profession, geography, gender, ethnicity, skills and experience, and believes that, as a group, the nominees bring a diverse range of perspectives to the Board's deliberations."

Pay links: None.

- ## Technology Services

Encompassing software firms, data and transactions processing companies, consultants, and web-based search, mail and commerce sites, the Technology Services sector, like many of the other service-oriented industries, had scant reporting across 10-K filings, annual financial reports and sustainability reporting platforms and no truly integrated sustainability reporters. It scored second to last in Si2's evaluation with an average of 9.1 points, a little under half of the S&P 500 average of 17.5. The sector also was slightly less inclined to engage in sustainability reporting, with 69 percent doing so compared with the S&P 500 average of 76.4 percent. It had a few areas of above average reporting under waste management and employment, and climate change was a more active area within the industry. *(See table below.)* It was the sector least likely to report environmental liabilities (3.4 versus 38 percent for the S&P 500) and the second least apt to disclose other sustainability-related liabilities (17.2 versus 41.9 percent for the S&P 500.)

Technology Services	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	0.0%	0.0%				
Conflict Minerals	0.0%	0.0%				
Government Payments	0.0%	0.0%				
Climate Change	17.2%	3.4%	17.2%	6.9%	41.4%	37.9%
Environmental Management	10.3%	0.0%	13.8%	0.0%	37.9%	37.9%
Water Use	0.0%	0.0%	0.0%	0.0%	10.3%	10.3%
Hazardous Waste	6.9%	0.0%	6.9%	0.0%	3.4%	3.4%
Waste Management	6.9%	3.4%	10.3%	6.9%	20.7%	20.7%
Product Formulations	6.9%	3.4%	10.3%	6.9%	34.5%	34.5%
Employment	44.8%	17.2%	44.8%	17.2%	34.5%	34.5%
Human Rights	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ethics	10.3%	0.0%	10.3%	3.4%	17.2%	10.3%

Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.
Areas where this industry group posted the highest percentage among all industries are highlighted in red.
Source: Sustainable Investments Institute (Si2), Washington, DC

Employment: Almost 45 percent of Technology Services firms discussed employment risks and a little more than a third also talked about opportunities in this area. In a sector dependent on highly-skilled employees, these relatively higher reporting rates are to be expected. For example:

- **Google** in its 10-K filing said it strives "to hire the best employees, with backgrounds and perspectives as diverse as our global users." It described the "great pride" it takes in its corporate culture, which it said embraces "collaboration and creativity" and encourages "the iteration of ideas to address complex technical challenges," as well as "transparency and open dialog." Despite its "rapid growth," Google said it has stuck to its start-up roots and gives "employees the freedom to act on their ideas regardless of role or function within the company" and a working environment to have "fulfilling careers working on some of the biggest challenges in technology…"

  Google noted that all of its employees hold equity in the company. None are organized outside of works councils and statutory employee representation obligations in certain countries, and Google considered its employee relations to be "good." Nonetheless, it said, "Competition for qualified personnel in our industry is intense, particularly for software engineers, computer scientists, and other technical staff." It also noted that the loss of key executives and personnel "could seriously harm our business," as it relies "on highly skilled personnel and, if we are unable to retain or motivate key personnel, hire qualified personnel, or maintain our corporate culture, we may not be able to grow effectively." In fact, it noted, "competitors have directly targeted our employees." It also said its "compensation arrangements, such as our equity award programs, may not always be successful in attracting new employees and retaining and motivating our existing employees."

- Similarly, **Cognizant Tech Solutions** said in its 10-K, "Our future success depends to a significant extent on our ability to attract, train and retain highly-skilled IT development and other professionals." In particular, it said, "we need to attract, train and retain project managers, programmers and other senior technical personnel." Cognizant said it believe there was "a shortage of, and significant competition for, IT development professionals in the United States, Europe and in India with the advanced technological skills necessary to perform the services we offer." It noted it was proactive in this area and had an active recruitment program in India and had developed a recruiting system and database "that facilitates the rapid identification of skilled candidates." It also conducted "extensive recruiting efforts at premier colleges and technical schools in India." It also said it had "an active lateral recruiting program in North America, Europe and India and have established an on-campus recruiting program in North America." In addition, to help retain employees, it had implemented "a career and education management program to define our employees' objectives and career plans."
- Meanwhile, **Iron Mountain** said in its sustainability report that it valued diversity and that diverse backgrounds and brings "unique perspectives to their roles…" It noted that half of its U.S. workforce was comprised of minorities. It also had created employee resource groups to facilitate hiring veterans and promoting workplace diversity.

  Iron Mountain also said it was "committed to providing a safe and healthy workplace for our employees, contractors, visitors, and neighbors," and had implemented a Safety & Health Operating System "designed to proactively minimize workplace risks and reduce the occurrence of occupational injuries and illnesses through incremental improvement." The program includes active management participation, workplace risk assessments, controls, as well as safety communications, education and training. Iron Mountain also noted that it had invested $4.3 million in workplace improvements and equipment upgrades to address safety issues and $2.3 million in employee training on safety. As testament to the effectiveness of its system, Iron Mountain noted that its North American operations achieved a 21 percent year over year improvement in injury rates.

  It also pointed out that it has a fleet of more than 2,600 delivery vehicles, so it also had a heavy emphasis on safe driving and had reduced its accident frequency by 25 percent between 2010 and 2011.

Climate change: More than 40 percent of Technology Services firms disclosed risks related to climate change, and almost 40 percent discussed opportunities in this area. Most focused on energy efficiency, especially for data centers, which tended to be energy hogs. For example:

- **Akamai Technologies** said in its 10-K, "Global climate change regulations could adversely impact our business." It noted, "Recent scientific studies and other news reports suggest the possibility of global climate change." It said, "In response, governments may adopt new regulations affecting the use of fossil fuels or requiring the use of alternative fuel sources." In addition, it noted, "our customers may require us to take steps to demonstrate that we are taking ecologically responsible measures in operating our business." It highlighted that its chief risk in this area was its “network of tens of thousands of servers,” which “consumes significant energy resources, including those generated by the burning of fossil fuels.” Therefore, Akamai said it was “possible that future regulatory or legislative initiatives or customer demands could affect the costs of operating our network of servers and our other operations,” and “such costs and any expenses we incur to make our network more efficient could make us less profitable in future periods.”

- Likewise, **Automatic Data Processing** said in its sustainability report that it was “looking into thermal energy as well as exploring alternative power solutions such as wind and solar energy.” It already has consolidated its data centers from 20 facilities to two facilities and had “reduced 24,000 tons of harmful carbon dioxide emissions annually” as a result. The changes also enabled the company to increase utilization of technology assets and decrease usage of kilowatts by half. It highlighted that it “installed power efficient servers and energy efficient lighting” in its data centers, as well as more power efficient mechanical electrical and cooling equipment. The efforts to date, it said, have saved the company $3 million per year in energy cost.

- **Intuit** also was focused on energy efficiency and said in its sustainability report that it had been working over the past five years to collect facility and data center electricity usage statistics for most of its largest facilities. It noted it had been working since 2008 to cut its energy usage by “conducting energy audits, installing automated lighting control mechanisms, using automated heating/ventilating controls and timers, and by deploying LEED approved practices into our facilities.”

  Furthermore, Intuit said, its technology staff had been focused on “drastically” reducing its data center’s energy and carbon footprints through consolidation and co-location. It explained that it “shifted some of our data center operations to a facility in Quincy, Wash., that is powered by renewable energy.” (More than 90 percent of its electricity comes from hydropower.) Intuit said it had additional energy efficiency, renewable energy and green building projects in the pipeline to reduce further its greenhouse gas emissions. It noted it had a good track record in this area, having reduced its facilities’ electricity use every year since 2007 (although its overall growth had led to an increase in energy use).

  Intuit said it had decided to use of fuel cells at its data centers which could save it up to 4 cents per kilowatt hour—so called Bloom Energy technology. It explained that the gas used to power the fuel cells is “cheaper than electricity from the Los Angeles Department of Water and Power, which meant that after state and federal incentives for renewable energy, the Bloom Boxes would be better for the environment and cheaper for Intuit.” It also pointed out that the Bloom Boxes are located next to the buildings they serve, reducing transmission loss, and use natural gas or biogas—both far more carbon efficient than coal. It also was investigating renewable energy opportunities at its facilities and LEED certifications for some of them.

- **Autodesk** likewise focuses on energy use in its climate change strategy, as it “has the most significant impact.” In its 2012 fiscal year, it said, energy use in its facilities resulted in 13,700 metric tons of CO2-equivalent emissions, 22 percent of the total Autodesk carbon footprint and a 25 percent reduction compared to its 2011 fiscal year. It also highlighted that it had completed facility reviews to develop energy, resource and water use, as well as waste management, strategies.

  It was in the process of prioritizing initiatives. For new facilities, it said it targeted LEED-certified buildings. Overall, eight of its facilities had achieved LEED certification with five more in the pipeline, representing 19 percent of its total square footage.

However, Autodesk noted, data center energy use was its "largest environmental impact" and had generated 1,820 metric tons of CO2-equivalent emissions, about 3 percent of Autodesk's carbon footprint and a decrease of 3 percent in its 2011 fiscal year compared to its 2010 fiscal year. To reduce energy use in its data centers, Autodesk said it uses "the Energy Star rating system to select the most efficient servers," and it also was investing in increasing server virtualization, "which saves energy by decreasing the need to run and cool physical servers." Altogether, it said, its improvements, including new servers, advanced virtualization and smart storage, had reduced energy use and associated GHG emissions at its main data center "by 62 percent while decreasing IT infrastructure costs by $7 million annually." The savings, it said, represented 15 percent of its IT infrastructure budget.

Product formulations: About a third of the sector had developed sustainability-oriented solutions for clients. For example:

- **Accenture** highlighted in its 10-K that its Resources operating group serves the chemicals, energy, forest products, metals and mining, utilities and related industries, and "market conditions are driving energy companies to seek new ways of creating value for shareholders; deregulation and climate change are fundamentally reforming the utilities industry and yielding cross-border opportunities; and there is an intensive focus on productivity and portfolio management in the chemicals and natural resources industries." Accenture said it was working with clients "to address all of these challenges and to create solutions designed to help them differentiate themselves in the marketplace, gain competitive advantage and manage their large-scale capital investments." Beyond resource extraction and utilities, the company said it worked with clients "across all industry groups on sustainability to help them meet emission targets and increase energy efficiency."
- **Cognizant Tech Solutions** said in its sustainability report that it was "conducting research and development on a number of IT applications that can help organizations to go green." For example, it said, "CG Live is a program that monitors PCs and collects data from sensors to analyze and decide on a course of action (such as Hibernate/Sleep/Log-off)" and "also provides real-time energy consumption details of PCs." In addition, "Cnap is an SMS-based mobile application to hibernate/wake-up PCs, whereby users can remotely manage their PCs to save energy," and "Gboard, an extension of Cnap, detects whether the user of a PC is logged off/hibernated and sends this information to the server to switch off lights near the idle PC."

Waste management: About a fifth of the companies in the sector talked about waste, mostly in the context of recycling and cutting office waste. (A handful of others discussed the recycling of computers, which are covered under hazardous waste.) For example:

- **CA** said in its sustainability report that it was reducing the volume of office waste going to landfills. It was modeling many of its programs on one developed by its team in Sydney, which had conducted a recycling audit and reported that 85 to 90 percent of their general office waste was being recovered and sold for recycling and/or reuse.
- Meanwhile **Iron Mountain** described in its sustainability report its work to meet the competing demands for more environmentally-friendly storage boxes and maintaining the strength and durability of the boxes it uses. It said that the boxes it now use all contain more than 65 percent of recycled content, which also was meeting customer requests for more environmentally friendly storage solutions. In 2011, it also "successfully evaluated the feasibility of including recycled content in our bins and consoles and will be rolling-out bins and consoles with recycled content

in 2012," and it had developed re-useable and collapsible "gaylords," which "reduce the need for pallets and shrink wrap." In addition, as a major shredder of documents, it also is the largest provider of shredded recycled paper in North America. In 2011, Iron Mountain said its shredding services had the following positive impacts: "Offset the use of 1.3 million cubic yards of landfill use; Saved 1.8 billion KW hours of electricity; Reduced air pollution by 270 million pounds;" and "Saved more than seven million 50-foot trees." Iron Mountain partnered with several waste to energy providers, "allowing us to help our customers make sure their non-paper media are securely destroyed and recycled." It incinerated 8.5 million pounds of material in 2011, saving 8,251 barrels of fuel oil and generating 4,648 megawatt hours of renewable energy.

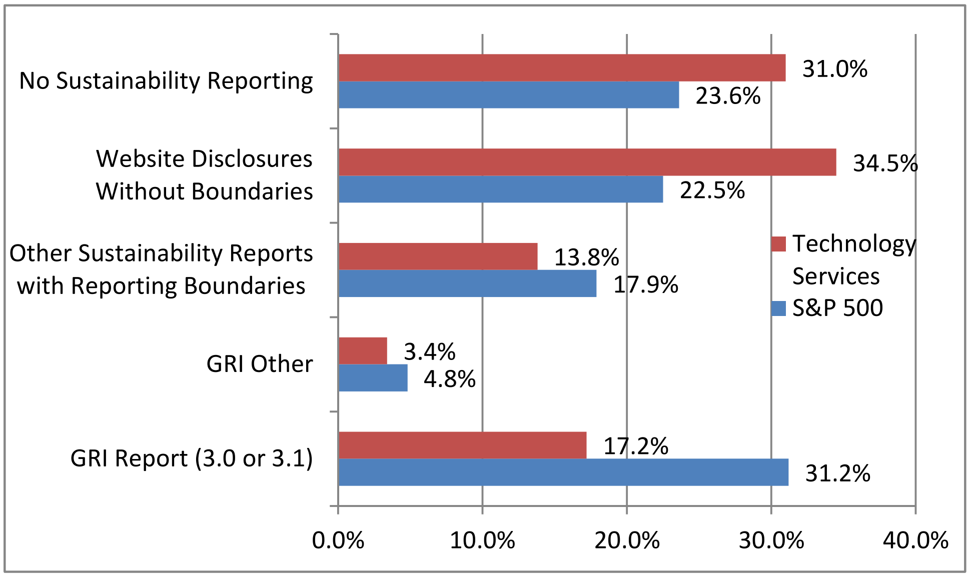
Hazardous waste: Fewer than a tenth of the companies in the sector discussed hazardous waste, but a few detailed efforts to recycle computers and one, which also was a hardware producer, discussed its work to eliminate toxic materials from its products:

- **Oracle** said in its 10-K, "Some of our hardware systems operations are subject to state, federal and international laws governing protection of the environment, proper handling and disposal of materials used to manufacture our products, human health and safety and regulating the use of certain chemical substances." Oracle said it endeavored "to comply with these environmental laws, yet compliance with such laws could increase our product design, development, procurement and manufacturing costs, limit our ability to manage excess and obsolete non-compliant inventory, change our sales activities, or otherwise impact future financial results of our hardware systems business." At the same time, it noted, violations of these laws could "subject us to significant liability, including fines, penalties and possible prohibition of sales of our products into one or more states or countries and result in a material adverse effect on the financial condition or results of operations of our hardware systems business."

  It said a significant risk for it in this area as the European Union's Directive on Restriction of Hazardous Substances (RoHS) and Waste Electrical and Electronic Equipment Directive (WEEE Directive), as well as China's regulation on Management Methods for Controlling Pollution Caused by Electronic Information Products, which Oracle said "may increase our cost of doing business internationally and impact our hardware systems revenues from EU countries and China as we endeavor to comply with and implement these requirements." In addition, it noted, "similar environmental legislation has been or may be enacted in other jurisdictions, the cumulative impact of which could be significant." It said it was working on its product formulations to mitigate these risks.

- Meanwhile, **Autodesk** said in its sustainability report that it "works with electronic waste (e-waste) service providers to replace and recycle our IT equipment responsibly, and to ensure compliance with the new e-Stewards standards recommended by the Basel Action Network." It noted that it evaluated "the practices of our e-waste providers" and was "working with our procurement department to ensure environmental criteria are prioritized alongside cost in vendor negotiations."

Sustainability reporting: The sector was less likely to engage in sustainability reporting than other industries—69 percent did compared with 76.4 percent for the S&P 500. The sector also was less likely to use GRI in reporting, with only 20.6 percent doing so compared with 36 percent for the S&P 500. *(See bar chart.)*



Financials in sustainability reporting: Of those reporting, a tenth included partial or full financials with sustainability reporting and a quarter offered some sort of economic overview with sustainability reports. The sector was the fourth least likely to include financials with sustainability reporting.

Board diversity: Technology Services firms were slightly less inclined to have board diversity policies with gender and/or race as part of the considerations for director nominees with 34.5 percent doing so, compared with 37.2 percent for the S&P 500. For example:

- **Yahoo!** said in its proxy statement that its nominating and governance committee "considers and assesses the diversity (which may include, among other things, an assessment of gender, age, race, national origin, education, professional experience and differences in viewpoints and skills) of potential candidates and the current Board members when evaluating the Board's composition and recommending candidates for nomination."

Pay links: The Technology Services sector was less likely to have executive pay links to environmental (6.9 versus 13.3 percent), social (20.7 versus 27.2 percent) and ethical (10.3 versus 10.7 percent) criteria.

- **Accenture**'s CEO had annual incentive pay linked to, among other factors, "enhancing Accenture's role and recognition in the global community with specific focus on Accenture's Skills to Succeed corporate citizenship initiative and our sustainability agenda."

Points: The Technology Services sector scores were the second lowest overall and lagged the S&P 500 by 8.4 points. The average score for the sector using Si2's method was 9.1. Computer Sciences had the highest score with 33 points and is profiled below.

Sector Profile: Computer Sciences

Computer Sciences Corporation ("CSC") is one of the world's largest information technology (IT) and professional services companies, helping clients use IT more efficiently to improve their operations and profitability. CSC's clients generally comprise governments and commercial enterprises that rely heavily upon the use of information services and associated systems. CSC's service offerings include IT and business process outsourcing, emerging services such as cloud computing and cyber-security protection, and a variety of other IT and professional services. Like other firms in the Technology Services sector, data centers were a major focus of energy efficiency efforts and the company's overall climate change strategy, and hazardous waste from computers also was a concern for CSC. Attracting and retaining tech-savvy employees in a competitive marketplace for labor also was a central theme in CSC's disclosures. CSC produced a standalone sustainability report for its 2012 fiscal year, albeit without the use of GRI. In it, CEO Mike Lawrie acknowledged that CSC began its 2012 fiscal year "on a particularly challenging note," but that it was managing itself "through a difficult economy and engaging fully in a dramatic turnaround that will ensure our sustainability." Despite these headwinds, he said, sustainability "has remained an important component of success and strength for our company as we continue to integrate sustainable practices and behavior into our global operations."

Climate change: In its 10-K filing, CSC warned that "catastrophic events or climate conditions may disrupt CSC's business," and its "revenues and results of operations may be adversely affected by the passage of climate change and other environmental legislation and regulations." It explained, "New legislation or regulations may result in increased costs directly for our compliance or indirectly to the extent that such requirements increase prices charged to us by vendors because of increased compliance costs." However, CSC was "unable to determine the impact that climate change and other environmental legislation and regulations could have on our overall business." It noted in its annual report that it was working to reduce its carbon footprint, offering clients a carbon impact reporting and management system as part of its Compliance and Sustainability practice, which "enables organizations to consolidate greenhouse gas data into a single, centralized repository to better analyze, forecast and reduce the total enterprise contribution to greenhouse gas emissions."

CSC expanded on its reporting of its climate change efforts in its sustainability report, noting that Energy efficiency assessments of its key data center and office locations had documented nearly $6 million per year in savings opportunities. It also noted that it was working to improve its energy supply mix by incorporating greater use of renewable sources. In the United Kingdom, it noted, its facilities use 50 percent renewable energy. It also worked with its utility in the United Kingdom to replace onsite power supply from fuel oil with better, cleaner energy directly from the utility, which cut its emissions by 4,000 metric tons of CO2-equivalent last year. In addition, CSC said it was tapping videoconferencing and teleconferencing capabilities to reduce business travel by 20 percent, "saving millions of dollars." It also was increasing employee telecommuting options.

However, data centers were the primary focus of its energy-reduction efforts as the largest percentage of CSC's energy consumption and carbon emissions. It said it had been working on increasing power usage efficiency and had generated 8 percent in energy savings over the past year from the efforts, equating to a savings of "$1 million per year at current electrical rates." It also was implementing virtualization strategies and consolidating facilities to boost efficiency. It had increased virtualization from 36.85percent in its 2011 fiscal year to 42.89 percent in 2012 by "adding 597 virtual servers, while removing 259 physical servers, creating an estimated savings of $467,000 for the year." It also retrofitted some of its data centers with new chiller complexes with variable-frequency drives generating "$160,000 in annual savings." It also worked in data centers to better regulate temperature by improving airflow and insulation and installed more efficient lighting and motion detectors to limit use.

Hazardous waste: CSC said it was working to ensure electronic waste from its operations does not find its way into landfills. It said its vendors were providing sustainable solutions, including "data security and destruction, redeployment, remarketing, lease return, logistics management, legislative compliance, and risk and environmental management." It had focused on reseller programs, which remarket CSC electronics. In the United States, it reported, it e-cycled 1.8 million pounds of electronic waste with a resulting revenue share of $1.9 million from resale efforts.

Product formulations: CSC said it was responding to more client requests for sustainability support. It noted that its cloud computing solutions were helping clients "cut energy consumption and infrastructure costs while enabling them to react quickly to market shifts and better connect employees and their smart devices to the enterprise." It also developed ClimatEdge, a new suite of offerings that "exploits big data from NASA, NOAA and other public sources that, until now, was used primarily by the climate research community to help commodity traders, risk managers and analysts better leverage government satellite, modeling and Earth observation data." It added, "By exploiting this previously untapped data, ClimatEdge provides the business insights and knowledge needed to minimize risk and make better-informed financial decisions."

Employment: In its 10-K, CSC said its "ability to provide our customers with competitive services is dependent on our ability to attract and retain qualified personnel." At the same time, it noted, "the markets we serve are highly competitive and competition for skilled employees in the technology outsourcing and consulting and systems integration markets is intense for both on-shore and offshore locales." It warned, "The loss of personnel could impair our ability to perform under certain of our contracts, which could have a material adverse effect on our consolidated financial position, results of operations and cash flows." For example, it noted, its "ability to perform services for certain of our government clients is dependent on our ability to maintain necessary security clearances," and "select U.S. and non-U.S. government clients require CSC to maintain security clearances for certain Company facilities used in performance of classified contracts." Further, "The competition for qualified personnel who possess security clearance is very competitive in certain public sector markets."

In its sustainability report, CSC outlined its strategies to attract, retain and fully develop employees in the face of stiff competition for talent. It provided millions of hours of training during its 2012 fiscal year through learning and certification venues, including through its own online platform, which offers "more than 3,000 courses, over 200 certification exams, more than 20,000 digitized books, hundreds of videos and short clips on a variety of topics and…50,000 hours of training" in 15 languages. It said it conducted events throughout the year to raise awareness among its workforce of these resources and to increase participation rates.

CSC said it also recognized and drew "strength from the tremendous diversity of the CSC team," and was working toward increasing diversity throughout its operations. It noted that in India, it had launched its Sensitization, Engagement, Empowerment and Development (SEED) initiative, which supports gender diversity and promotes the development of female employees through mentoring and training. It also had developed "the EDGE Diversity and Inclusion Program to increase awareness within our Managed Services Sector business unit of the importance of diversity as a key business driver."

CSC also described the "successful" launch of its "Global Get Fit Challenge, which involved more than 1,000 employees forming global teams to track and increase their physical activity." The program aims to improve employee wellness, decrease absenteeism and increase productivity.

Ethics: CSC's sustainability report also emphasized the importance of "maintaining the highest standards of corporate governance, which we know are essential for our sustained success and long-term stockholder value." It noted these policies and programs addressed "overseeing the processes for maintaining our integrity with regard to our financial statements and other public disclosures, and compliance with law and ethics…"

However, it also reported a class action lawsuit filed in 2009—*Shirley Morefield vs. Computer Sciences Corporation, et al.*—in state court in Clark County, Nevada, against CSC "and certain current and former officers and directors asserting claims for declarative and injunctive relief related to stock option backdating." The suit, however, was similar to another filed in U.S. District Court in Los Angeles in 2007, which was dismissed in its initial hearing and on appeal.

CSC also reported that it "initiated an investigation into out of period adjustments resulting from certain accounting errors in our MSS segment, primarily involving accounting irregularities in the Nordic region." It said it had hired outside counsel and forensic accountants to assist in the matter. Following the start of CSC's own internal probe in 2011, the SEC's Division of Enforcement told CSC later that year that "it had commenced a formal civil investigation relating to these matters."

In response, the board's audit committee "commenced an independent investigation into the matters relating to the MSS segment and the Nordic region, matters identified by subpoenas issued by the SEC's Division of Enforcement, and certain other accounting matters identified by the audit committee and retained independent counsel." The audit committee reported that its investigation has expanded into the company's accounting practices for Australia, as well as aspects of its Americas Outsourcing operation and the company's contract with NHS. In addition, the SEC's Division of Corporation Finance has issued comment letters to CSC requesting "additional information regarding its previously disclosed adjustments in connection with the above-referenced accounting errors, the Company's conclusions relating to materiality of such adjustments, and the Company's analysis of the effectiveness of its disclosure controls and procedures and its internal control over financial reporting." The SEC's and CSC's own investigations are ongoing. CSC warned, however, "Publicity surrounding the foregoing or any enforcement action as a result of the SEC's investigation, even if ultimately resolved favorably for us, could have an adverse impact on our reputation, business, financial condition, results of operations or cash flows."

Related to the investigations into the company's accounting irregularities, the City of Roseville Employee's Retirement System and other plaintiffs filed four putative class action complaints in the United States District Court for the Eastern District of Virginia, alleging "violations of the federal securities laws in connection with alleged misrepresentations and omissions regarding the business and operations of the Company." The plaintiffs' class certification and CSC's motion to dismiss were still pending. As similar case is pending in the Circuit Court of Fairfax County, Virginia.

Board diversity: In its proxy statement, CSC said, "Board membership should reflect diversity in many respects, by including, for example, persons diverse in geography, gender and ethnicity."

Pay links: None.

• Technology Hardware

The Technology Hardware sector represents a diverse group of equipment manufacturers, including makers of microchips and processors, servers, personal computers and peripheral equipment, smartphones and game consoles. Unlike their Technology Services counterparts, Technology Hardware companies were avid reporters, besting the S&P 500 average for points in the Si2 assessment (19.4 versus 17.5 percent) and sustainability reporting (86 percent versus 76.4 percent). Companies in the sector also were more inclined to use GRI—44.3 versus 36 percent, although the sector did not include a truly integrated reporter.

Highly dependent on minerals—including the “conflict minerals” gold, tantalum, tin and tungsten—for circuitry and other components, the sector topped disclosures for the S&P 500 for new Dodd-Frank requirements on these substances, with most warning investors of the added costs associated with complying with the new rule. (The sector also scored a high mark on human rights risks related to conflict minerals.) Other high points for the sector included waste management (including packaging reduction strategies), hazardous waste (regarding the recycling of electronic equipment), employment (in recruiting and retaining talent), environmental management (implementation of ISO 14001 and other certification systems) and climate change (especially the energy efficiency of data centers). *(See table below.)*

At the same time, Technology Hardware firms were not prolific reporters on environmental liabilities and contingencies, with only 16.3 percent in the sector disclosing in this category, less than half the 38 percent rate for the S&P 500. The trend held for other sustainability-related liabilities, with 30.2 percent reporting compared with 41.9 percent for the S&P 500.

Technology Hardware	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	0.0%	0.0%				
Conflict Minerals	32.6%	2.3%				
Government Payments	0.0%	0.0%				
Climate Change	41.9%	11.6%	34.9%	9.3%	46.5%	46.5%
Environmental Management	44.2%	9.3%	34.9%	9.3%	51.2%	51.2%
Water Use	16.3%	7.0%	14.0%	7.0%	34.9%	34.9%
Hazardous Waste	72.1%	4.7%	60.5%	4.7%	41.9%	27.9%
Waste Management	58.1%	11.6%	48.8%	11.6%	37.2%	37.2%
Product Formulations	37.2%	14.0%	34.9%	14.0%	72.1%	72.1%
Employment	51.2%	16.3%	51.2%	18.6%	48.8%	48.8%
Human Rights	11.6%	2.3%	14.0%	2.3%	27.9%	7.0%
Ethics	30.2%	0.0%	18.6%	2.3%	32.6%	23.3%

Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.

Areas where this industry group posted the highest percentage among all industries are highlighted in red.

Source: Sustainable Investments Institute (Si2), Washington, DC

Conflict minerals: Almost a third of the sector reported on conflict minerals risks—the highest rate among all industries in the study. Technology hardware companies focused on risks related to the Dodd-Frank requirements in 10-K filings and their solutions in sustainability reports, which centered on vetting smelters, viewed as pinch points in the supply chains for conflict minerals. For example:

- **Qualcomm** explained in its 10-K, "The SEC has recently adopted disclosure rules for companies that use conflict minerals in their products, with substantial supply chain verification requirements in the event that the materials come from, or could have come from, the Democratic Republic of the Congo or adjoining countries." It added, "These new rules and verification requirements, which will apply to our activities in calendar 2013, will impose additional costs on us and on our suppliers, and may limit the sources or increase the prices of materials used in our products." Furthermore, it warned, "If we are unable to certify that our products are conflict free, we may face challenges with our customers, which could place us at a competitive disadvantage, and our reputation may be harmed."

  Meanwhile, in its sustainability report, Qualcomm said it was committed to sourcing conflict-free minerals for its products. It said it began preparing for compliance with the Dodd-Frank conflict mineral regulations in 2011, publishing a policy and modeling its internal processes on the OECD Due Diligence Guidance. It also began to reach out to its suppliers to educate them on the new requirements.

  In addition, Qualcomm participated in the EICCGeSI Extractives Work Group and expressed its intention to use the EICCGeSI Conflict Minerals Reporting Template to collect sourcing information from direct suppliers and to communicate that information to its customers. Qualcomm said it expected to begin fully using the template in 2012, which will help it collect data for compliance with Dodd-Frank. Qualcomm also expressed its intent to join the Public-Private Alliance for Responsible Minerals Trade "to contribute to the development of a clean minerals sourcing program in the DRC and surrounding areas."

- Similarly, **TE Connectivity** said in its 10-K, "The Dodd-Frank Wall Street Reform and Consumer Protection Act contains provisions to improve the transparency and accountability concerning the supply of minerals coming from the conflict zones of the Democratic Republic of Congo (DRC)," and "the SEC established new annual disclosure and reporting requirements for those companies who use 'conflict' minerals mined from the DRC and adjoining countries in their products." It warned, "The new requirements could affect the sourcing and availability of minerals used in the manufacture of certain of our products." It explained, "There may only be a limited pool of suppliers who provide conflict free metals, and we cannot assure you that we will be able to obtain these metals in sufficient quantities or at competitive prices." Also, it said, "since our supply chain is complex, we may face reputational challenges with our customers and other stakeholders if we are unable to sufficiently verify the origins for all metals used in our products through the due diligence procedures that we implement."

  In its sustainability report, TE Connectivity said it "takes very seriously the possibility that conflict minerals may find their way into our supply chain." Accordingly, it said, "we support Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act to discourage companies from using conflict minerals." TE said it is supporting traceability in its supply chain by requiring suppliers to "identify the source of their gold, tantalum, tungsten, and tin to the greatest extent possible and use reasonable efforts to supply commodity metals to TE that are conflict-free."

  However, it noted, "the pressure on smelters and suppliers to certify minerals as DRC conflict-free is creating a de facto embargo on all tin, tantalum, tungsten, and gold exported from the DRC and surrounding region." Therefore, "to avoid an adverse impact to African economies," TE said it encouraged the SEC "to adopt transition rules that will allow for construction of the proper infrastructure within the DRC region to trace conflict minerals back to the mines," and it also asked the U.S. government "to help identify the conflict mines, which would then allow certain mines to be certified as conflict-free."

- Likewise, **Motorola Solutions** said in its 10-K, "We may be unable to obtain a sufficient supply of components and parts that are verified free of conflict minerals mined from the Democratic Republic of Congo and adjoining countries, which could result in a shortage of such components and parts or reputational damages if we are unable to certify that our products are free of such minerals." It too noted, "The Dodd-Frank Wall Street Reform and Consumer Protection Act included disclosure requirements regarding the use of conflict minerals mined from the Democratic Republic of Congo and adjoining countries (DRC) and procedures regarding a manufacturer's efforts to prevent the sourcing of such conflict minerals." It added, "While final rules implementing these requirements have not yet been released, the implementation may limit the pool of suppliers who can provide us verifiable DRC Conflict Free components and parts, and we are not certain that we will be able to obtain products in sufficient quantities that meet the DRC Conflict Free designation as proposed by the requirements."

  In addition, Motorola Solutions said, "since our supply chain is complex, we may face reputational challenges with our customers, other stockholders and the activist community if we are unable to sufficiently verify the origins for the defined conflict metals used in our products."

  In its sustainability report, Motorola Solutions said it was taking "a risk-based approach to supplier monitoring based on our supplier engagement model developed based on the joint GeSI and EICC effort." It noted that its policies and procedures comply with the OECD Due Diligence Guidance, and it had "added a clause to our standard supplier contract stating that we will source only products that are free from minerals that directly or indirectly finance or benefit illegally armed groups." At the same time, Motorola Solutions noted that it was sending its suppliers self-assessment questionnaires for them to provide information on their environmental and labor policies and management systems. Based on the information it collects, the company said, it plans "to identify areas for improvement and to target our on-site audits."

Waste management: Technology hardware companies were the most likely to identify risks related to waste management, and nearly 60 percent did so in 10-K filings. At the same time, nearly 40 percent identified opportunities. For example:

- **Dell** described in its sustainability report its "three Cs" packaging strategy, which it said was one of the industry's "most aggressive packaging reduction tactics and most innovative uses of alternative packaging materials." The first "C" stands for "cube" and calls for reducing packaging size. The second refers to "content" and sets goals to use recycled or sustainable materials. The third is for "curb" and aims to make packaging easily recyclable. In 2008, Dell set a goal to reduce overall packaging volume by 10 percent by the end of 2012. It said it had exceeded that goal by cutting volume by 12.1 percent, and that the initiative had saved the company more than $18 million.
- Likewise, **TE Connectivity** highlighted that it was "seeking to re-engineer" its products and production processes "to become waste-free." In 2011, it noted it had reduced the absolute amount of waste generated by 16 percent and on an intensity volume basis by 21 percent. A key part of this initiative, it said, was limiting materials coming into its manufacturing processes in the first place, and TE had set a goal for its 90-plus plants to cut inputs and generate $25 million in incremental material productivity by cutting scrap materials and maximizing the value of scrap sold, as well as by optimizing inventories and operations.

- **Cisco Systems** said in its sustainability report that "the growing amount of municipal solid waste being added to landfills from product packaging has become an area of environmental concern." To address this issue, Cisco said its packaging teams were working to design packages "to protect against shipping damage while minimizing material usage." Its process includes optimizing materials used and space from the package side and from a product design standpoint, as well as from the perspective of shipping containers. It also carefully selected materials for recyclability. As an example, it said it redesigned packaging for the Cisco Nexus 2000 pack in 2011 by reducing the height of the accessory kit to shrink the size of the customer pack, which in turn "reduced inbound and outbound shipping costs as well as packaging costs and had a weight savings of 1.84 ounces of plastic and 6.1 ounces of corrugated cardboard per unit."

  In addition, it said, more than 95 percent of the packaging parts are now made of one material or using materials that are easily separable for recycling. As a result of this and other packaging projects in 20011, Cisco said it reduced its packaging material by 1200 metric tonnes and a total of 3000 metric tonnes over the last three years.

Hazardous Waste: The industry was particularly sensitive to electronic waste, and the topic was the subject of disclosures from nearly three-quarters of the sector. For example:

- **Seagate Technology** said in its 10-K, "The sale and manufacturing of products in certain states and countries may subject us to environmental and other regulations including, in some instances, the responsibility for environmentally safe disposal or recycling." For example, it noted, "the EU has enacted the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment directive, which prohibits the use of certain substances in electronic equipment, and the Waste Electrical and Electronic Equipment directive, which obligates parties that place electrical and electronic equipment onto the market in the EU to put a clearly identifiable mark on the equipment, register with and report to EU member countries regarding distribution of the equipment, and provide a mechanism to take-back and properly dispose of the equipment."

  Similar legislation, it noted, "may be enacted in other locations where we manufacture or sell our products." While it did not anticipate any material negatives for its operations from these requirements, it said non-compliance would result in "governmental fines, liability to our customers and damage to our reputation, which would also have a material adverse effect on our business, results of operations and financial condition."

- Likewise, **Lexmark** in its 10-K reviewed regulations holding producers of electrical goods, including printers, financially responsible for "specified collection, recycling, treatment and disposal of past and future covered products." In response, it said it had created programs "to recover, remanufacture and recycle certain of its products and intends to continue to expand on initiatives that have a positive effect on the environment." However, it noted, "Directives issued by the European Union require producers of electrical and electronic goods to be financially responsible for specified collection, recycling, treatment and disposal of past and future covered products," and Lexmark estimated it would incur a liability for these costs.

- Meanwhile, **Microchip Technology** described in its sustainability report an effort to cut chemical use by changing manufacturing technology. It noted one facility reduced chemicals used by weight by 40 percent, and the new chemical processes involved also were less toxic. The facility now was saving costs associated with 60,000 pounds of chemicals per year. Another facility had reduced chemical usage by 60,600 pounds per year.

Environmental management: More than half of the sector described risks and opportunities related to environmental management systems. For example:

- **NetApp** said in its 10-K that it "maintained an environmental management system since December 2004 as well as ISO 14001 certification at our corporate headquarters, which represents approximately 25 percent of our employee population and is one of the largest components of our corporate carbon footprint." As part of ISO 14001 requirements, it noted, it sets "environmental performance goals around reducing energy use per square foot as well as waste generated on site (per employee)." In addition, it said, it conducted "an annual review and third-party verified audits of our operations, and we monitor environmental legislation and requirements to help make sure we are taking necessary measures to remain in compliance with applicable laws, not only in our operations but also for our products."
- Similarly, **Analog Devices** said in its 10-K that its environmental, health and safety systems helped it to adhere to applicable regulatory and industry standards and to encourage pollution prevention, reduce water and energy consumption, reduce waste generation, and strive towards continual improvement. It noted its management systems were certified to ISO 14001, OHSAS 18001, ISO 9001 and TS16949.
- And **IBM** offered a review of the effectiveness of its environmental management system and its contributions to its bottom line. It said that over the last five years it had spent $106.9 million in capital and $508.5 million in operating expense to build, maintain and upgrade the infrastructure for environmental protection at its plants and labs, and to manage its worldwide environmental programs. Its capital expenditures were $18.4 million in 2011, and its expenses were $96.1 million in 2011. In 2011, it noted, it "expanded our tracking of environmental expenses to include expenses associated with compliance with environmental legal requirements related to products, including those costs incurred for compliance with product take-back and recycling requirements." At the same time, it noted, it also tracked savings and the avoidance of costs realized from energy, material and water conservation; recycling; packaging improvement initiatives; reductions in chemical use and waste; and process improvements from pollution prevention from its environmental programs. It also does not carry over savings from year to year.

  In 2011, IBM estimated environmental savings and cost avoidance worldwide totaled $139.1 million, and it said its "experience has shown that annual savings from IBM's focus on conservation, pollution prevention and design for the environment consistently exceed environmental expenses, demonstrating the value of proactive environmental programs and performance."

Climate change: Almost half of the sector discussed risks and opportunities associated with climate change, and the energy efficiency of data centers were a common theme. For example:

- **Microchip Technology** said in its 10-K, "Climate change regulations and sustained adverse climate change poses both regulatory and physical risks that could harm our results of operations or affect the way we conduct our business." For example, it said, "New climate change regulations could require us to limit emissions, change our manufacturing processes, obtain substitute materials that may cost more or be less available, increase our investment in control technology for greenhouse gas emissions, fund offset projects or undertake other costly activities." As a result, it added, "These regulations could significantly increase our costs and restrict our manufacturing operations by virtue of requirements for new equipment," including by increasing energy costs, and "it is possible that new permits will be required for our current or any expansion of our operations." Furthermore, it said, "any sustained adverse change in climate could have a direct adverse economic impact on us such as water and power shortages or higher costs for water or energy to control the temperature inside of our facilities," as well as increasing its facilities' vulnerability to "storms, severe floods and droughts…"

- Meanwhile, **NetApp** said in its 10-K that it was "voluntarily measuring, monitoring, and publicly reporting our Scope 1 and Scope 2 greenhouse gas emissions." It also highlighted that it had established "employee commuter programs and education and awareness campaigns, and we continuously seek to optimize the energy efficiency of our buildings, labs, and data centers."

  On regulation, it noted, "both the global and regional/state levels, various laws and regulations have been implemented or are under consideration to mitigate the effects of climate change caused by greenhouse gas emissions." While there were many variables at play, it said, "Based on current information and subject to the finalization of the proposed regulations, we believe that our primary risk related to climate change is the risk of increased energy costs."

  It said it was addressing these risks through energy efficiency programs, and it also had emergency preparedness and recovery plans for its facilities to react to increasing risks from severe weather events. At the same time, it said, "Recently, governmental and non-governmental organizations have turned their attention to development of regulations and standards to drive technological improvements to reduce carbon emissions." It noted, "While we continuously seek to optimize the energy efficiency of our products, there is a risk that the development of these standards will not fully address the complexity of the technology developed by the IT industry or will favor certain technological approaches." It added, "Depending on the regulations or standards that are ultimately adopted, the cost of compliance could adversely affect our business..."

- In its sustainability report, **Qualcomm** also described efforts to minimize its carbon footprint "and cut costs," and energy efficiency was the cornerstone of its strategy too. It said it began tracking energy consumption for all of its facilities in North America in 2011. While its energy usage had increased between 2010 and 2011, it said it was due to growth in its operations and that its energy efficiency efforts were yielding results, including cost savings of $3.4 million. It noted that it made improvements in 2011 that will save 2.8 million kilowatt hours and 945 metric tons of CO2 emissions every year, including investments in high-efficiency lighting; heating, ventilation and air conditioning (HVAC) systems; and renewable energy.

  At the same time, it said it was developing products to help customers become more energy efficient, including wireless components in smart grids. It noted that "digitally enabled electrical grids that use wireless networks and information technology to distribute energy more efficiently, saving costs and reducing greenhouse gas (GHG) emissions in the process." It had acquired a firm in 2011 with a substantial portfolio in smart grid technologies, Atheros Communications.

Water use: A little more than a third of the Technology Hardware sector described risks and opportunities related to water use, especially mitigating risks in water-stressed regions. For example:

- **Hewlett-Packard** said in its sustainability report that many of its facilities, "including those in water-stressed regions, are taking steps to cut water use or use alternatives to freshwater sources." For example, it noted its facilities in Singapore have been using New Water—treated wastewater purified using microfiltration, reverse osmosis, and ultraviolet treatment, as well as conventional treatment processes—since 2007 to reduce water consumption. New Water, it noted, now accounted for more than two-thirds of the facilities' annual water consumption and is 20 percent cheaper than standard potable water, helping the company to save more than $3.5 million since 2007.

- Meanwhile, **Lexmark International** noted in its sustainability report that its "manufacturing and research and development operations…have a substantial impact on the company's water consumption," although all of its facilities used water in some capacity to support sanitation, as well as heating and cooling systems. It said it "aggressively" monitors, controls and seeks to reduce water usage where opportunities exist. Examples of its initiatives in this area included "installing more efficient HVAC systems and improving the efficiency of existing HVAC systems, installing low-flow plumbing fixtures, desert-scaping (sometimes referred to as xeriscaping) and reusing process water in manufacturing facilities." Lexmark said its total water usage (as purchased from local utility providers) had decreased by 39 percent since 2005, exceeding its goal of a 20 percent reduction by 2017 and had cut operating costs.

Product formulations: Almost three-quarters of the firms discussed sustainable product solutions, and more than a third of these discussions took place in 10-K filings and annual reports. For example:

- **Corning** in its annual report described its Environmental Technologies Segment, which "manufactures ceramic substrates and filter products for emissions control in mobile and stationary applications around the world." The business grew out of its development of the first catalytic converters during the 1970s and has grown considerably as global emissions control regulations have tightened, the company notes. Corning sells its ceramic substrate and filter products to manufacturers of emission control systems around the world who then sell to automotive and diesel vehicle or engine manufacturers. The segment, Corning highlighted, "has an extensive portfolio of patents relating to its products, technologies and manufacturing processes." It said net income in 2011 for the segment increased 181 percent due to higher sales volume for our diesel products, combined with reduced air freight expenses and improved manufacturing performance in both diesel and automotive product lines.
- **Dell** noted in its sustainability report that companies and consumers were increasingly buying more sustainable computers to achieve sustainability goals, live greener lifestyles, and save money, and it is committed to providing end-to-end solutions to meet these needs, "helping customers not only be more productive, but more sustainable, too..." For example, it says, its Dell OptiPlex systems have shipped since 2005 with Energy Smart power management settings enabled, which has "helped customers save more than $6.2 billion in electricity costs with this simple default..." It noted that many of its "Energy Star-qualified products offer convenient power management features, including a low-power sleep mode, creating savings of up to $50 in electricity costs per computer, per year." In addition, it noted, its customers building new data centers and using the company's Fresh Air-enabled solutions "may be able to avoid purchasing and deploying energy-intensive chillers, saving up to $3 million per megawatt of compute capacity to install and up to $250,000 per megawatt each year to operate..."

Employment: As in other industries requiring highly skilled employees, the Technology Hardware sector saw high reporting rates—more than half and above the S&P 500 average—of companies discussing employment risks. In this case, most disclosures centered on the challenge of recruiting and retaining employees and the opportunities associated with innovative pay and benefits programs. For example:

- **Juniper Networks** said in its 10-K that it had not experienced any work stoppages and considered its relations with employees to be good, but "competition for qualified personnel in our industry is intense." It added, "We believe that our future success depends in part on our continued ability to hire, motivate, and retain qualified personnel." While it said it had been successful in recruiting qualified employees, it warned "there is no assurance that we will continue to be successful in the future." It added that its "future performance depends significantly upon the continued service of our key technical, sales, and senior management personnel, none of whom are bound by an employment agreement requiring service for any defined period of time," as well as the ability to recruit qualified employees in these areas. To do so in a competitive job market, Juniper said it provides "a competitive compensation package, including cash and share-based compensation." It noted its share-based incentive awards include "stock options, restricted stock units and performance share awards, some of which contain conditions relating to our long-term financial performance that make the future value of those awards uncertain."

- **IBM** said in its sustainability report, "the key to being a great company is hiring, supporting and retaining great employees." To recruit and retain the best employees, IBM said its human resources (HR) function was "constantly crafting new strategies to meet our employees' needs."

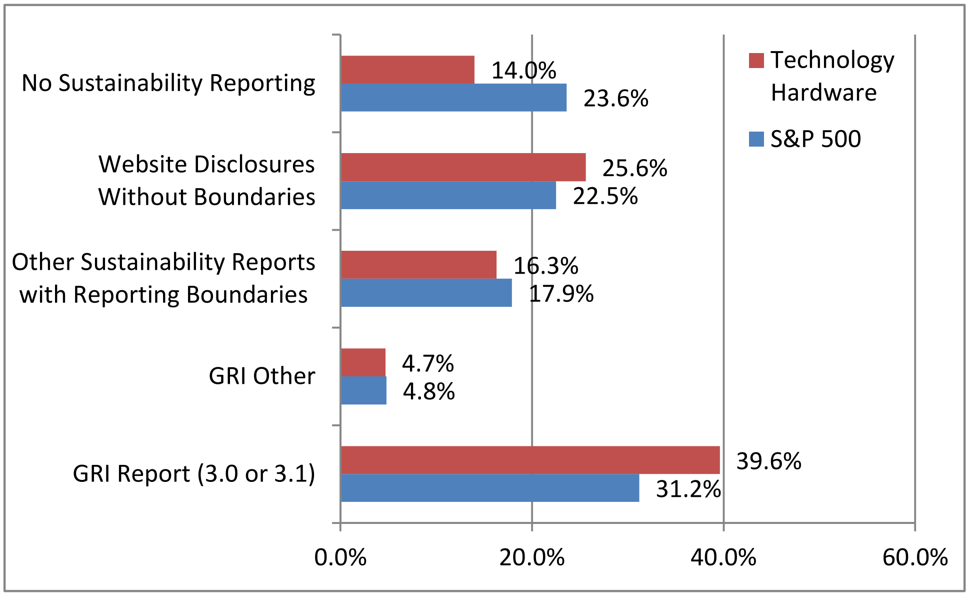
  The company launched a virtual dialogue, called HR ThinkFuture, in 2010 "to envision the future of work and how HR, as a profession, can help IBM move towards that future." The project brought together IBM human resources professionals from around the world to meet and brainstorm on these issues. Building off this human resources summit, IBM decided to change its approach to understanding employee issues and concerns through a more contemporary approach leveraging technology and data analytics beyond its traditional company-wide employee survey, which it said had "been useful for gaining a high-level view of employee satisfaction" but "did not allow for a tailored view on specific local issues to address the needs of the business." Therefore, it deployed a mix of methods and flexible ways of understanding employees' sentiment in 2011, including tailored surveys and employee advisory panels.

  IBM said it also emphasized employee wellness, which demonstrated "a commitment to employee health and safety that values the whole person, while at work, home or as a member of a larger community." It described its total health management system "that transcends traditional employee well-being programs by recognizing the importance of promoting physical and psychological health" and "facilitates proactive planning, execution excellence, measurement and continuous improvement in areas of employee health and well-being." At the same time, it underscored, the program "supports IBM's business goals by improving productivity, managing costs and eliminating unnecessary expenses."

  Diversity also was a key tenet of IBM's employee recruitment and retention strategy, and it said it "viewed the diversity of cultures, people, thoughts and ideas as critical to our success in the marketplace" and described its approach to "inclusion," which both addressed recruitment efforts as well as instilling tolerance and a spirit of diversity in the workplace. It also noted that "the global business environment is increasingly competitive." Therefore, it said, "If IBM is to maintain its leadership position as one of the world's top globally integrated enterprises, it's important to create an environment that offers employees not only financial security but also autonomy, meaningful work and the opportunity for development and advancement."

  It added that it viewed flexibility as a key value proposition for its employees, as they "need time to cultivate personal interests and integrate the demands of the job with the demands of their personal lives." To address both employee and business needs, IBM said it had "developed six flexibility principles" that can be adapted to suit customs and legal requirements in individual markets. Among other facets, the principles include programs for flexible working arrangements.

Sustainability reporting: Technology hardware companies were avid sustainability reporters, at least in comparison to the rest of the S&P 500, with a rate of reporting of 86 percent, 10 percentage points above the S&P 500 average of 76.4 percent. The sector also was more inclined to use the GRI reporting standard with 44.3 percent doing so compared with the S&P 500 average of 36 percent. *(See bar chart.)*



Financials in sustainability reporting: For the companies issuing sustainability reports, 21.6 percent included consolidated or full financials and 35.1 percent gave at least economic overviews alongside sustainability disclosures. The sector nearly matched the S&P 500 in including financials with sustainability reporting (56.7 versus 61.6 percent).

Board diversity: However, Technology Hardware firms were the third least likely to consider race and/or gender in selecting director nominees, as disclosed in proxy statements, with only 16.3 percent doing so compared with 37.2 percent for the S&P 500.

- One company bucking the trend, **Altera**, said in its proxy statement, “Additionally, the nominating and governance committee considers as one factor in its selection of directors the diversity of the board as it relates to race, gender, age and national origin.”

Pay links: In addition, the Technology Hardware sector was less inclined to link executive pay to environmental (4.7 versus 13.3 percent), social (11.6 versus 27.2 percent) and/or ethical (7 versus 10.7 percent) criteria than the S&P 500.

- One standout, however, was **Molex**. Its CEO’s annual bonus was tied to, among other factors, “driving diversity and inclusion” and “continued development of Molex’s corporate citizenship and responsibility programs.”

Points: On average, Technology Hardware companies earned 19.4 points in Si2’s evaluation, above the S&P 500 average of 17.5 points. The highest scorer in the sector (and fourth highest scorer overall), **Intel**, earned 52 points and is profiled below.

Sector Profile: Intel

Intel designs and manufactures advanced integrated digital technology platforms consisting of microprocessors and chipsets and, at times, enhanced by additional hardware, software and services. It sells its platforms primarily to original equipment manufacturers, original design manufacturers, and industrial and communications equipment manufacturers in the computing and communications industries. Its platforms are used in a wide range of applications, including personal computers, data centers, tablets, smartphones, automobiles, automated factory systems, and medical devices. It also develops and sells software and services primarily focused on security and technology integration.

Intel published a sustainability report using GRI's 3.1 guidelines and self-declared an A reporting level. The issues it reported on reflected the broader trends in its industry. Climate change and its links to solutions in energy efficiency were central to not only Intel's sustainability strategy but was one of its three pillars of innovation in its overall corporate strategy, as outlined in its 10-K and annual financial report. Intel also followed disclosure trends in its industry with an emphasis on conflict minerals, as well as environmental issues, including hazardous materials (and the recycling of electronic waste), waste management and water use—a particularly important issue for Intel given the water-intensive process for manufacturing microprocessors and chipsets. Employment, like for others in the sector, was a main thrust of Intel's discussion, too. In addition, Intel's sustainability report offered an example of how the company links sustainability and financial performance. The report highlighted the Intel Environmental Excellence Awards, an annual event Intel has held since 2000 that awards employees who have helped reduce Intel's environmental impact. "In addition to yielding environmental benefits, the report noted, "these employee projects frequently save money for Intel," and "the estimated annual cost savings from the 2011 winning projects exceeded $70 million."

Conflict minerals: Intel noted in its 10-K filing (and repeated in its annual and sustainability reports) that it "is an industry leader in efforts to build ethical sourcing of minerals for our products." It pointed out that it had "partnered with the U.S. State Department and the U.S. Agency for International Development to create pilot programs that would allow for tracking and tracing of our source materials, in particular those minerals sourced from the Democratic Republic of the Congo." It said it continued to work to establish a conflict-free supply chain for its company and industry in 2012, as it works toward goals to verify that the tantalum it uses in its microprocessors is conflict-free by the end of 2012 and to certify the world's first conflict-free microprocessor by the end of 2013.

Climate change: Intel noted several risks related to climate change in its 10-K. For example, it said, it sees the "potential for higher energy costs driven by climate change regulations," included in the form of higher rates from "utilities that are passed along to customers, such as carbon taxes or costs associated with obtaining permits for our U.S. manufacturing operations, emission cap and trade programs, or renewable portfolio standards." Nonetheless, Intel saw plenty of opportunities. It believed that technology would "be fundamental to finding solutions to the world's environmental challenges," including "to combat climate change."

For its operations, Intel "seeks to reduce our global greenhouse gas emissions by investing in energy conservation projects in our factories and working with suppliers to improve energy efficiency." It has invested more than $58 million and completed more than 1,563 projects, saving more than 825 million kWh of energy since 2001. The investments also enabled Intel to reduce energy costs in 2011 by $10.9 million, which would have lasting effects on its cost structure for years to come.

It also said it has been successful in leveraging videoconferencing to facilitate collaboration among Intel's global teams and improving productivity, while reducing travel costs and travel-related emissions. During 2011, it said it "nearly doubled the number of meeting rooms that have videoconferencing capabilities and introduced new rooms that have videoconferencing capabilities in 12 additional countries." It also provided videoconference tools that run on mobile business personal computers, "enabling employees to connect with colleagues around the world from their desks or from remote locations." On average, Intel said its network supports more than 600 videoconferences per week, and the practice had saved in 2011 alone $73 million in travel expenses, 435,000 travel hours, and more than 65,000 metric tons of CO2 emissions.

In 2011, Intel also allocated $13 million for resource conservation and efficiency projects, including "the installation of more efficient lighting and system controls; boiler and chilled-water system improvements; and cleanroom heating, ventilation, air conditioning, and heat recovery improvements." And one of the company teams competing in its annual environmental awards had developed a plan to reuse and optimize networking systems in Intel's offices, reducing annual energy costs by more than $22 million.

Intel also highlighted that it has been purchasing wind power and other forms of renewable energy at some of its major sites for several years, and it purchases renewable energy certificates under a multi-year contract. Its renewable energy program, it noted, "has placed Intel at the top of the EPA's Green Power Partnership for the past four years and was intended to help stimulate the market for green power, leading to additional generating capacity and, ultimately, lower costs."

On the product side, it said, it takes "a holistic approach to power management, addressing the challenge at the silicon, package, circuit, micro/macro architecture, platform, and software levels." It noted that it was developing processors that required less power for customers.

Hazardous materials: Intel's hazardous waste programs partly overlap with its product formulations strategy, as it "focuses on reducing natural resource use, the solid and chemical waste by-products of our manufacturing processes, and the environmental impact of our products." It disclosed in its 10-K that it uses "a variety of materials in our manufacturing process that have the potential to adversely impact the environment and are subject to a variety of EHS laws and regulations." It noted it has been working to reduce the use of these substances and had significantly reduced the use of lead, halogenated flame retardants and polyvinyl chloride (PVC) materials in its products and manufacturing processes. It also had reduced its perfluorocompound (PFC) emissions below 1995 levels by 2012. In addition, a team developed a new chemistry process that reduced waste by 84 percent, resulting in a reduction of 900,000 gallons of chemical waste and savings of over $45 million annually in 2011.

Intel said it also was working with the U.S. Environmental Protection Agency (EPA), non-governmental organizations, OEMs, and retailers to help manage e-waste (which includes electronic products nearing the end of their useful lives) and promote recycling. In addition, it noted, "The European Union requires producers of certain electrical and electronic equipment to develop programs that allow consumers to return products for recycling," and "many states in the U.S. have similar e-waste take-back laws." While these laws "are typically targeted at the end electronic product and not the component products that Intel manufactures, the inconsistency of many e-waste take-back laws and the lack of local e-waste management options in many areas pose a challenge for our compliance efforts," it noted.

Waste management: Intel said in its sustainability report that it was redesigning its packaging to reduce waste. It noted it redesigned the entire retail CPU Boxed Processor product line to reduce overall packaging size, which cut paperboard significantly and avoided the use of 2.5 million pounds of plastics, which also reduced costs.

Water use: Intel said in its sustainability report that it had invested more than $100 million in water conservation programs at global facilities since 1998, and it highlighted that its "comprehensive and aggressive efforts have saved over 40 billion gallons of water, enough for roughly 400,000 U.S. homes for an entire year." It described how it had focused on improving "the efficiency of the process used to create the ultra-pure water (UPW) required to clean silicon wafers during fabrication." While it needed almost 2 gallons of water to make 1 gallon of UPW when it started its program, today it said it can make 1 gallon of UPW from between 1.25 and 1.5 gallons of water. "After we use UPW to clean wafers, the water is suitable for industrial purposes, irrigation, and many other needs," and, it said, its "factories are equipped with complex rinse-water collection systems, with separate drains for collecting lightly contaminated wastewater for reuse." With this reuse strategy, it said it had harvested "as much water from its manufacturing processes as possible and direct[ed] it to equipment such as cooling towers and scrubbers." In addition, at some locations, Intel said it has "arrangements to take back gray water from local municipal water treatment operations for use at our campuses." In 2011, it noted that it had recycled approximately 2.4 billion gallons of water, equivalent to approximately 30 percent of its total water withdrawals for the year.

Product formulations: In addition to efforts to improve product formulations to eliminate toxic materials, Intel also said it was "committed to helping its customers lower the energy costs associated with their computing and data center needs." For example, 3M said it saved $91,000 on annual energy costs and avoided 661 tons of annual emissions by virtualizing its data centers using the energy-efficient Intel Xeon processor 5600 and 5500 series. These same measures "also helped 3M earn a $34,000 energy incentive credit from the Xcel Energy Data Center Efficiency program while providing more flexible, reliable infrastructure to business and development teams."

Employment: Intel's sustainability report said that the company's "success rests on our employees' ability to create and innovate in technology, in business, and in their communities." It noted that "one of the six Intel Values, 'Great Place to Work,' reinforces the strategic importance we place on investing in our people" and in "cultivating a safe, respectful, and ethical work environment that enables employees to thrive both on and off the job." Intel noted that it had invested approximately $299 million in employee training and development in 2011 and highlighted that its workplace practices once again earned it a spot on Fortune magazine's annual "100 Best Companies to Work For" list.

It also described how its employment practices are consistent with legal requirements and integrated into its overarching Environmental, Health, and Safety (EHS) requirements and management systems. It tracks notices of violation related to its EHS practices, and pointed to declining fines in recent years that only amounted to $675 in 2011.

Ethics: Intel's 10-K notes that its "global operations subject us to risks that may harm our results of operations and financial condition." It explained that it has sales offices, as well as research and development, manufacturing, assembly and test facilities in many countries, and some businesses are affected by "security concerns, such as armed conflict and civil or military unrest, crime, political instability, and terrorist activity…differing employment practices and labor issues; and local business and cultural factors that differ from our normal standards and practices, including business practices that we are prohibited from engaging in by the Foreign Corrupt Practices Act (FCPA) and other anti-corruption laws and regulations."

It also described several legal issues buffeting the company, mostly surrounding anti-trust issues. The European Commission levied a $1.45 billion fine against Intel in 2009 for violations of competition law. Intel said it "strongly" disagrees with the EC's decision and is appealing it. It settled a similar investigation with the U.S. Federal Trade Commission (FTC) in 2010 and had reached an agreement that did not include an admission that Intel had violated the law or require any changes in the way that Intel does business. In addition, Intel and the New York Attorney General in 2012 announced a settlement of a lawsuit filed by the State of New York in November 2009, "alleging violation by Intel of U.S. and state antitrust laws." This agreement too "expressly states that Intel does not admit either any violation of the law or that the allegations in the complaint are true, and does not call for changes in the way Intel does business." It included a payment of $6.5 million from Intel to cover some of the costs incurred by the New York Attorney General in the litigation. Intel said it was facing at least 82 separate class actions filed on similar grounds and seeking varying remedies.

Board diversity: Intel's proxy statement says, "In addition to assessing nominees' skills and experience, the Board annually evaluates factors including independence, gender and ethnic diversity, and age."

Pay links: Also in Intel's proxy statement, it noted that the annual cash incentive for one named executive officer was tied to "increasing internal organizational health scores and continuing Intel's leadership positions in manufacturing, technology, and environmental sustainability."

• Communications

Representing wired and wireless communications providers, the Communications sector was among the smallest studied by Si2 in the S&P 500, comprising only nine companies, and it also exhibited among the lowest rates of reporting. The average score for the sector in Si2's evaluation was the second lowest among the S&P 500—9.1 points—and it had the dubious distinction of being the sector least likely to engage in sustainability reporting. It also had no truly integrated reporters. It did exhibit above average reporting on conflict minerals, attributable to **Sprint Nextel**, which also happened to be the sector's top scorer (and is profiled at the end of this section), as well as in the area of employment. Other areas of more frequent reporting in Communications included hazardous waste, environmental management and climate change. *(See table below.)* Its liability and contingency discussions on environmental (33.3 versus 38 percent) and other sustainability (22.2 versus 41.9 percent) also lagged the S&P 500 averages.

Communications	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	0.0%	0.0%				
Conflict Minerals	11.1%	0.0%				
Government Payments	0.0%	0.0%				
Climate Change	22.2%	22.2%	22.2%	22.2%	33.3%	33.3%
Environmental Management	33.3%	11.1%	22.2%	11.1%	0.0%	0.0%
Water Use	0.0%	0.0%	0.0%	0.0%	11.1%	11.1%
Hazardous Waste	44.4%	0.0%	33.3%	0.0%	22.2%	22.2%
Waste Management	0.0%	0.0%	0.0%	0.0%	33.3%	33.3%
Product Formulations	11.1%	11.1%	33.3%	33.3%	33.3%	33.3%
Employment	55.6%	0.0%	44.4%	11.1%	0.0%	0.0%
Human Rights	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ethics	11.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.						
Areas where this industry group posted the highest percentage among all industries are highlighted in red.						
Source: Sustainable Investments Institute (Si2), Washington, DC						

Employment: More than half of Communications firms discussed risks related to employment matters in 10-K filings, most focusing on relations with workers and their unions, pension and healthcare costs, and the competition for qualified personnel. However, others expanded on discussions in sustainability reports to disclosures on diversity. For example:

- **Verizon Communications** warned in its 10-K, "Increases in costs for pension benefits and active and retiree healthcare benefits may reduce our profitability and increase our funding commitments." It explained, "With approximately 193,900 employees and approximately 209,400 retirees as of December 31, 2011 participating in Verizon's benefit plans, the costs of pension benefits and active and retiree healthcare benefits have a significant impact on our profitability." It added, "Our costs of maintaining these plans, and the future funding requirements for these plans, are affected by several factors including the Patient Protection and Affordable Care Act and the Health Care Education Reconciliation Act of 2010, increases in healthcare costs, decreases in investment returns on funds held by our pension and other benefit plan trusts and changes in the discount rate used to calculate pension and other postretirement expenses." Furthermore, it said, "If we are unable to limit future increases in the costs of our benefit plans, those costs could reduce our profitability and increase our funding commitments."

Verizon also pointed out that a significant portion of its workforce—30 percent—is represented by labor unions, and it flagged that it "could incur additional costs or experience work stoppages as a result of the renegotiation of our labor contracts or additional organizing activity." It said it had experienced a 14-day work stoppage when its labor contracts expired in August 2011. It negotiated a return-to-work agreement with its labor unions and continues with contract negotiations. "Depending on the course of these negotiations," it said, "we could incur additional costs and/or experience additional work stoppages, which could adversely affect our business operations, including through a loss of revenue and strained relationships with customers."

Meanwhile, in its sustainability report, Verizon said that it embraced "diversity and personal development not only because it's the right thing to do, but also because it's smart business." It explained, "Having employees with diverse backgrounds and experiences makes us more innovative and helps us meet the needs of our increasingly diverse customers," and it noted it held its executives "accountable for promoting diversity within their organizations."

- At the same time, **Metropcs Communications** warned in its 10-K, "Recent political changes could have an adverse effect on our relationship with our workforce." It explained, "None of our employees is covered by a collective bargaining agreement or represented by an employee union." However, it said, "With the ongoing changes in the party affiliations the party composition of Congress, the President of the United States and the changes in composition of Federal and state legislatures, legislation or regulatory rules have been proposed and may be enacted which could impose additional requirements on us or make it easier for union organizing activities." It concluded, "If our employees become represented by an employee union or are subject to a collective bargaining agreement, it may make it more difficult for us to manage our business and to attract and retain new employees and may increase our cost of doing business."
- Similarly, **Windstream** said in its 10-K, "Adverse developments in our relationship with our employees could adversely affect our business, our results of operations and financial condition." It noted that 11.8 percent of its employees were covered by collective bargaining agreements. While its "relationship with these unions generally has been satisfactory," it noted, "occasional work stoppages have occurred." It also noted that it was party to 23 collective bargaining agreements and one National Pension Agreement with several unions, which expire at various times. "Historically," it said, "we have succeeded in negotiating new collective bargaining agreements without work stoppages; however, no assurances can be given that we will succeed in negotiating new collective bargaining agreements to replace the expiring ones without work stoppages."
- Meanwhile, **AT&T** in its sustainability report said that "talented, dedicated people are key to our company's success, and we strive to be the industry's employer of choice by investing in our people." AT&T said it had "competitive pay and benefits attract and retain a highly qualified workforce" and offered health and welfare benefits to 1.2 million employees, retirees and dependents.

  It noted that its OSHA total recordable occupational injury and illness rate (per 100 employees) had been declining in recent years and was presently 2.14.

  It also highlighted that it invested more than $280 million in direct employee training development programs in 2011 and reimbursed employees nearly $28 million for tuition expenses.

  It also was developing programs to help employees strike a balance between work and personal life, and it offered telecommuting as an option for many employees—more than 17,000 of its employees were telecommuters in 2011. (It also noted telecommuting programs helped cut costs from office space—$6,500 on average per telecommuter—and reduced greenhouse gas emissions associated with those offices and employee commuting.) AT&T also found that "92 percent of telecommuters indicate that telecommuting helps them achieve a healthy work-life balance." Telecommuters had an average round-trip commute time per employee of 54 minutes, time employees instead could use for personal or family time, AT&T noted. AT&T also found that "productivity increases, often dramatically, by enabling employees to perform work away from their central job locations." Supervisors of AT&T employees telecommuting found that their telecommuters were "effective at communicating (98 percent), collaborating (96 percent), managing their time (97 percent) and meeting their goals (98 percent)," and telecommuters had a 17 percent lower absentee rate and 72 percent lower turnover rate.

AT&T also said it benefited from a diverse workforce, noting that diversity helped it "understand the different needs of our customers and can deliver products and services that enable them to Rethink Possible." In 2011, AT&T noted, "people of color comprised 39 percent of AT&T's total workforce," more than the 30 percent of the high school-educated national labor force who are people of color. "Among all AT&T new hires in 2011," it noted, "47 percent were people of color, further strengthening our representation in this area." However, it also pointed out, women comprised 39 percent of AT&T's total workforce in 2011 compared with the 47 percent of the high-school educated national labor force who are female, and among all AT&T new hires in 2011, 34 percent were women. It said it would continue to strive to improve its performance in this area.

Hazardous waste: Close to half of the Communications firms had some form of disclosure of hazardous waste risks, but most were related to legacy issues on properties they owned and did not represent material liabilities. For example

- **American Tower** said in its 10-K that its operations are "subject to various national, state and local environmental laws and regulations, including those relating to the management, use, storage, disposal, emission and remediation of, and exposure to, hazardous and non-hazardous substances, materials and wastes, and the siting of our towers." And, it noted, "As an owner, lessee and/or operator of real property and facilities, we may have liability under environmental laws for the costs of investigation, removal or remediation of soil and groundwater contaminated by hazardous substances or waste," at times "without regard to whether we, as the owner, lessee or operator, knew of, or were responsible for, the contamination, and whether or not we have discontinued operations or sold the property."
- Similarly, **CenturyLink** in its 10-K said it monitored its "compliance with federal, state and local regulations governing the management, discharge and disposal of hazardous and environmentally sensitive materials." It added, "Although we believe that we are in compliance with these regulations, our management, discharge or disposal of hazardous and environmentally sensitive materials might expose us to claims or actions that could have a material adverse effect on our business, financial condition and operating results..."

Environmental management: Most Communications firms' discussion of environmental management centered on evaluating properties for environmental risk. About a third of the companies in the sector included these discussions in 10-K filings. For example:

- **Crown Castle International** noted in its 10-K that the "construction of new towers and, in some cases, the modification of existing towers in the United States may be subject to environmental review under the National Environmental Policy Act of 1969," and the FCC had "promulgated regulations implementing NEPA which require applicants to investigate the potential environmental impact of the proposed tower construction." Crown Castel said it conducted regular reviews to comply with this requirement and it hadn't noted any material liabilities to date.

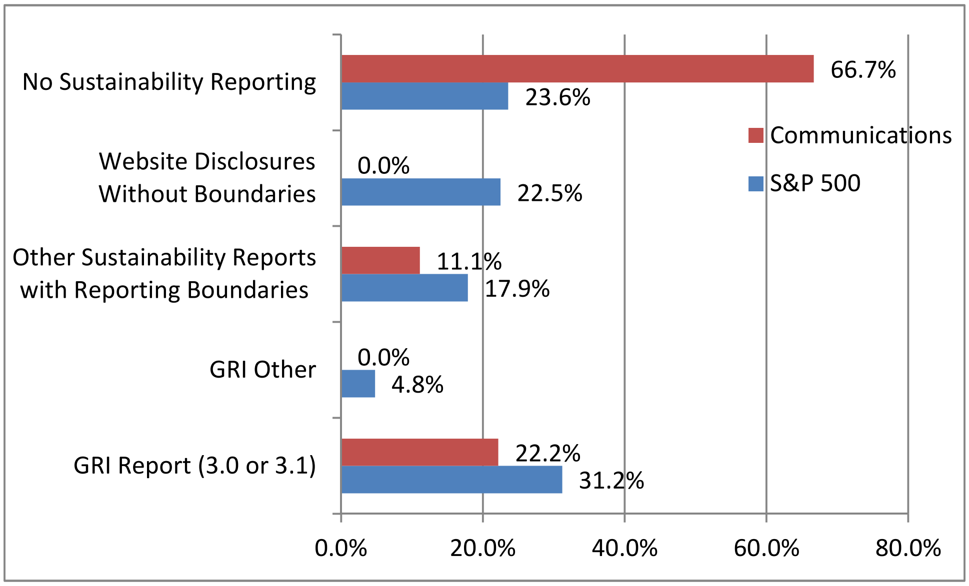
Climate change: A third of the Communications discussed risks and opportunities related to climate change, although most were brief. Most centered on regulatory risks, energy efficiency efforts, and the benefits Communications services had on cutting business and other travel that could create greenhouse gas emissions, as well as Communications potential role in deploying smart grid technologies for utilities. For example:

- **Verizon Communications** said in its 10-K, "We do not currently expect that legislative efforts relating to climate control will have a material adverse impact on our consolidated financial results or financial condition." In fact, it said, "We believe there may be opportunities for companies to increase their use of communications services, including those we provide, in order to minimize the environmental impact of their businesses." In its sustainability report, Verizon added, "We see a growing market for smart technologies that enable better energy management of homes, cars, office buildings and utility grids." It noted, "While our work with energy utilities has resulted in cutting-edge machine-to-machine solutions developed in our innovation labs, the real breakthrough of this digitization of the electrical grid is that it uses information to give users unprecedented control over how they consume and manage energy and unites the producers and consumers of energy into a single, dynamic energy ecosystem."
- Similarly, **AT&T** said in its 10-K, "increased public focus on potential global climate changes has led to proposals at state, federal and foreign government levels to increase regulation on various types of emissions, including those generated by vehicles and by facilities consuming large amounts of electricity." Nonetheless, it said, "We do not expect these proposals to have a material adverse impact on our operating results, and they could create increased demand for communications services as companies seek to reduce emissions." As discussed earlier, AT&T talked about the benefits of its telecommuting program for employees on cutting greenhouse gas emissions.

  It also noted in its sustainability report that it had achieved $42 million in annualized savings from implementing more than 4,500 energy-efficiency projects in 2011 and $86 million in annualized savings from 8,700 energy-saving projects implemented in 2010 and 2011. Most projects focused on installing more efficient light bulbs and lighting sensors in offices, while retrofitting data centers to improve air flow. It also was deploying teleconference and videoconferencing technologies to cut employee travel and said these technologies help it avoid $13.9 million in travel dollars and more than 8,261 metric tons of CO_2 equivalent emissions in 2011. It also was working on installing renewable energy solutions when it was cost efficient. To date it had installed 3,182,923 kilowatt hours (kWh) of solar capacity.

Sustainability reporting:
As noted above, Communications firms were the least likely to produce sustainability reports, and only a third did so compared with 76.4 percent of the S&P 500. Communications firms also were less inclined to use the GRI standard—22.2 percent compared with 36 percent for the S&P 500. *(See bar chart, next page.)*

Financial in sustainability reports: Of the third of the sector producing sustainability reports of one form or another, none coupled this reporting with consolidated or full financials, although two-thirds included general economic overviews of their operations. It bested the S&P 500 in including financials with sustainability reporting (66.7 compared with 61.6 percent).



Board diversity: Communications firms were the least likely to have board diversity statements including race and/or gender as criteria for director nominations. Only 11.1 percent of the sector did, compared with 37.2 percent for the S&P 500.

Pay links: None of the Communications firms had links between executive pay and environmental or ethical criteria and only 11.1 percent had links to social metrics, placing it at or near the bottom of industry rankings in these three areas.

Points: The average score for Communications firms in Si2's assessment was 9.8, almost half of the S&P 500 average of 17.5. **Sprint Nextel** was the highest scoring firm with 27 points and is profiled below.

Sector Profile: Sprint Nextel

Sprint Nextel offers wireless and wired communications services to nearly 56 million customers, including consumers, businesses and government users. It services include mobile data services, prepaid brands including Virgin Mobile USA, Boost Mobile, and Assurance Wireless, instant national and international push-to-talk capabilities, with a global Tier 1 Internet backbone. Sprint Nextel was among the few in the Communications sector to issue a sustainability report using GRI 3.1 guidelines and self-declared an A reporting level. Like many of its competitors, Sprint Nextel spoke in-depth about climate change and energy efficiency efforts, as well as employment matters. However, it was the lone communications firm addressing conflict minerals and the only one to discuss take-back programs for electronic devices. It also was among the minority in discussing waste management and water use.

It also had an interesting take on sustainability's role in its business with implications for integrated reporting. It opened its 2011 sustainability report noting that it had been a "pivotal year" for Sprint Nextel in its corporate responsibility journey:

> Although we'd previously made significant progress towards many of our goals, for the most part the efforts were functionally led and intended to either reduce costs or support our corporate reputation. These are both important goals, but deliver only a portion of the value CR can bring to an organization once it takes action to use CR as an engine for revenue growth. Sprint now recognizes that CR can be used

to drive cost out of the business (e.g., eliminating waste and improving resource efficiency), create revenue by providing social and environmental technology solutions, and increase capital investment by targeting long-term Socially Responsible Investors (SRI). We've also seen the less measurable but equally important impact CR has in engaging our employees, increasing their loyalty to Sprint and enabling us to recruit the best and brightest who seek a company that mirrors their personal values.

Conflict minerals: In its 10-K filing, Sprint Nextel observed, "Proposed regulatory developments regarding the use of conflict minerals mined from the Democratic Republic of Congo and adjoining countries could affect the sourcing and availability of minerals used in the manufacture of certain products, including handsets." It noted, "Although we do not buy raw materials, manufacture, or produce any electronic equipment directly, the proposed regulation may affect some of our suppliers." As a result, it said, "there may only be a limited pool of suppliers who provide conflict free metals, and we cannot assure you that we will be able to obtain products in sufficient quantities or at competitive prices." In addition, it warned, "because our supply chain is complex, we may face reputational challenges with our customers and other stakeholders if we are unable to sufficiently verify the origins for all metals used in the products that we sell."

Climate change: In its sustainability report, Sprint Nextel noted that its climate change challenge centers on its energy-intensive network, which expends 84.8 percent of its total energy use. Therefore, it said, "finding creative solutions to reduce our emissions while still growing our business can be a tough balancing act." Nonetheless, it said, it had set a goals to reduce its GHG emissions by an absolute 20 percent, increase its use of renewable energy to at least 10 percent of total electrical use, and decrease its absolute energy consumption by 15 percent by 2017, while absorbing "an expected increase in network traffic (as measured in terabytes of data) of more than 250 percent." This represents a reduction in carbon emissions on an efficiency basis measured by metric tons of CO_2-equivalent per terabyte of data by 75 percent during this period. "These goals are the most aggressive of any wireless carrier in the United States," Sprint noted, and it also "is the only carrier to set an absolute reduction target that includes both scope 1 and scope 2 emissions." Sprint said it also had begun to work on renewable energy deployments, focusing on the installation of hydrogen fuel cells as back-up power sources for network equipment at 250 sites. (It leveraged a $7.3 million grant from the U.S. Department of Energy in 2009 to complete installation of fuel cells at 100 of the sites.)

Water use: Sprint said in its sustainability report that it had "achieved an 8 percent year-over-year reduction in water use in 2011, bringing the total reduction from 2007 to 2011 to 27.5 percent." It said its reduction in water use in 2011 was mainly achieved by increasing the efficiency of water-cooling towers at two large network-switch sites. The remaining balance of its cuts in water use came from "right-sizing" its operations and shedding assets in its commercial and retail portfolio. It said it was now focused primarily "on seeking more water-efficient solutions for keeping our facilities cool," including "reducing the demand for cooling" and identifying new, more efficient technologies. It also highlighted that it had installed a rainwater-recapture system at its headquarters campus, conserving and reusing millions of gallons of water annually.

Waste management: From 2007 through 2011, Sprint said in its sustainability report, it "achieved a 64.6-percent reduction in annual paper purchases and saved a cumulative estimated total of $64 million dollars." It started 2011 with a goal to reduce paper use its paper use by another 30 percent by 2017 and achieved that goal, so it raised its target to 40 percent. The most significant year-over-year reduction occurred in its marketing division (49 percent), which was able to reduce the amount of retail and direct marketing collateral. In addition, paper purchases by its IT Care & Billing Services dropped 17 percent based on more customers opting for paperless-billing (30 percent of customer accounts converted to this option by the end of 2011) and a transition to more streamlined billing formats. In addition, its offices reduced paper consumptions by 14 percent "through further optimization and removal of office-printing devices and use of paperless office tools."

Hazardous waste: Sprint also highlighted in its sustainability report that it became "the first wireless provider to publish an Electronics Stewardship Policy outlining goals and commitments to address the full lifecycle of the electronics we buy and sell" in May 20011. In the policy, Sprint said all of its facilities would be capable of collecting electronic devices for recycling by 2017 and that it aimed to collect 90 percent of Sprint-branded devices by 2017, too. Sprint collected 1,448 metric tons of e-waste for recycling in 2011. It said it was working to audit its facilities to expand and improve recycling options.

In another milestone, Sprint also became "the first major U.S. wireless provider to buy back eligible phones from any provider in store and to provide customers with an instant credit for that trade in" in April 2010. The results, Sprint said, were impressive— with its retail stores reporting a near three-fold increase in recycling of handsets by the end of 2011. Sprint increased awareness of the program by training sales associates in its retail stores and alerting customers of the buyback offer anytime they called customer care, as well as when they purchase a new plan or device. It also was offering consumers free mailers to send in old devices. Sprint said it hoped that its efforts in 2011 and beyond would help boost its recycling efforts, which had dipped after a high of a 42 percent collection rate in 2009. Furthermore, Sprint said its device-collection programs was providing "tremendous value to the company, capturing millions of used mobile devices, diverting them from landfills and even helping Sprint to avoid more than $1 billion in cost." It explained, the recycled devices and accessories can be remanufactured by Sprint and used in place of new ones to support its service and repair operations, insurance program and customers looking to save money by purchasing pre-owned, certified phones.

Environmental management: Sprint had a limited discussion of environmental management, mostly related to hazardous waste, in its 10-K filing. It noted that it was involved in environmental compliance and remediation obligations related primarily to the operation of its standby power generators, batteries and fuel storage for its telecommunications equipment. It said its environmental team regularly assessed its obligations in these areas and that it was not aware of any expenditures that would have a material effect on its financials.

Product formulations: Sprint noted in its sustainability report that its 56 million customers sought a new cell phone every 14 months on average, presenting challenges and opportunities for its environmental efforts. It said it was working internally and with its partners throughout the supply chain to "offer our customers more sustainable products to help reduce their footprints." It said it was assessing the entire lifecycle, "from design to purchase to disposal, reuse and recycling" of its products to ensure that devices in its portfolio were compatible with its long-term goals device collection and recycling goals. It also partnered with Underwriters Laboratory Environment (ULE) to develop what is now the first environmental standard for wireless mobile phones—ULE 110, launched in early 2011.

Employment: In its sustainability report, Sprint noted that it pursued "diversity in all its forms, including ethnicity, gender, generational, geographical and thought." It reviewed its inclusion and diversity efforts, which include "employee representation and engagement; supplier diversity; participation in diverse, national strategic partnerships; and multi-cultural marketing." It noted it had created employee resource groups to address issues facing under-represented cultural groups, such as improving skills, mentoring, in-language marketing and community outreach. Sprint has six groups—Diamond Network

(African American focus), Enlace (Hispanic focus), OASIS (Asian focus), Pride (GLBT focus), VETS (Veteran focused) and WISE (Women focused)—and more than 5,500 employees participate in them. The groups helped it develop marketing to attract customers "from traditionally under-represented cultural segments within the United States, including African Americans, Hispanics, Asians, veterans and women."

Ethics: Sprint Nextel noted in its 10-K filing that keeping customer information private and secure was a critical part of its operations and a key risk to mitigate. It noted, the "information technology and other systems that maintain and transmit customer information, or those of service providers, may be compromised by a malicious third-party penetration of our network security, or that of a third-party service provider, or impacted by advertent or inadvertent actions or inactions by our employees, or those of a third-party service provider." As a result, it warned, "our subscribers' information may be lost, disclosed, accessed or taken without the subscribers' consent."

Sprint Nextel also disclosed several legal proceedings in its 10-K:

- On January 6, 2011, the U.S. District Court for the District of Kansas denied Sprint Nextel's "motion to dismiss a shareholder lawsuit, Bennett v. Sprint Nextel Corp.," Sprint said, "that alleges that the Company and three of our former officers violated Section 10(b) of the Securities Exchange Act of 1934 and Rule 10b-5 by failing adequately to disclose certain alleged operational difficulties subsequent to the Sprint-Nextel merger, and by purportedly issuing false and misleading statements regarding the write-down of goodwill." Sprint noted that it believed the suit lacked merit, and it was vigorously defending itself in the case. It also noted that five related shareholder derivative suits had been filed against the Company and also were still pending. Sprint said it did not expect any of the matters "to have a material adverse effect on our financial position or results of operations."
- In April 2009, a purported class action lawsuit was filed against Clearwire U.S. LLC in Superior Court in King County, Washington by a group of five plaintiffs, alleging that Sprint Nextel "disseminated false advertising about the quality and reliability of our services; imposed an unlawful early termination fee, which we refer to as ETF; and invoked allegedly unconscionable provisions of our Terms of Service to the detriment of subscribers." This case is in early discovery.
- In September 2009, another "purported class action lawsuit was filed against Clearwire in King County Superior Court, brought by representative plaintiff Rosa Kwan," alleging that Sprint Nextel "placed unlawful telephone calls using automatic dialing and announcing devices and engaged in unlawful collection practices." This case also is in the early stages of litigation.
- In November 2010, a third "purported class action lawsuit was filed against Clearwire by Angelo Dennings in the U.S. District Court for the Western District of Washington," alleging that Sprint Nextel slows "network speeds when network demand is highest and that such network management violates our agreements with subscribers and is contrary to the company's advertising and marketing claims." This case too is in the early stages of litigation.
- In March 2011, a fourth "purported class action was filed against Clearwire in the U.S. District Court for the Eastern District of California," alleging that Clearwire's "network management and advertising practices constitute breach of contract, unjust enrichment, unfair competition under California's Business and Professions Code Sections 17200 et seq., and violation of California's Consumers' Legal Remedies Act." This case also is in the early stages of litigation.

Board diversity and pay links: None.

• Utilities

The utilities sector included the most prolific reporters in the study—not unexpected since it is such a heavily regulated industry and faces many issues that are in flux. In addition to including one of the report's six truly integrated reporters—**American Electric Power (AEP)**—Utilities earned the highest average score in Si2's assessment (33.6 points). These firms were the most likely to report environmental liabilities and contingencies (100 percent), the second most likely to engage in sustainability reporting (93.3 percent and beat only by Transportation companies), the third most likely to mention director nominee criteria mentioning gender and/or race (50 percent), and the most likely to have environmental (53.3 percent), social (76.7 percent) and ethical (30 percent) links to executive pay.

Utilities also were the most predisposed to disclose climate change and hazardous waste risks and opportunities in 10-K filings, annual financial reports and sustainability reporting platforms, and the most inclined to include information on risks and opportunities related to environmental management in 10-K filings and annual reports. The industry also had above average disclosures in comparison to other sectors in the areas of mine safety, water use, waste management, product formulations and employment. *(See table below.)*

Utilities	10-K		Annual Report		Sustainability Report	
	Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Mine Safety	10.0%	6.7%				
Conflict Minerals	0.0%	0.0%				
Government Payments	0.0%	0.0%				
Climate Change	100.0%	50.0%	90.0%	60.0%	86.7%	70.0%
Environmental Management	93.3%	33.3%	80.0%	50.0%	76.7%	73.3%
Water Use	66.7%	0.0%	53.3%	10.0%	50.0%	40.0%
Hazardous Waste	96.7%	26.7%	86.7%	36.7%	73.3%	56.7%
Waste Management	40.0%	6.7%	36.7%	6.7%	60.0%	60.0%
Product Formulations	50.0%	43.3%	53.3%	53.3%	56.7%	56.7%
Employment	60.0%	30.0%	60.0%	40.0%	70.0%	70.0%
Human Rights	0.0%	0.0%	0.0%	0.0%	3.3%	3.3%
Ethics	10.0%	0.0%	10.0%	3.3%	40.0%	30.0%
Areas where this industry group ranked above average in comparison to the S&P 500 are highlighted in orange.						
Areas where this industry group posted the highest percentage among all industries are highlighted in red.						
Source: Sustainable Investments Institute (Si2), Washington, DC						

Climate change: Utilities exhibited the highest rates of reporting climate change risks and opportunities across all types of disclosure documents reviewed in the study. Discussions centered on grappling with regulatory risks, as well as with the uncertainty surrounding court challenges. However, many Utilities also talked about opportunities in becoming more emissions efficient themselves and promoting energy efficiency among customers, as well as in making investments in less carbon-intensive generation equipment and renewable energy. As with most discussions of opportunities across issues and sectors, climate-related opportunities for Utilities were most often talked about in sustainability reports. For example:

- **PG&E** said in its 10-K filing that its climate-related risks hinge on its ability "to recover associated compliance costs including the cost of emission allowances and offsets that the Utility may incur under cap and trade regulations." It started out its discussion on regulation. "Although there have been several legislative attempts to address climate change through imposition of nation-wide regulatory limits on GHG emissions," it pointed out, "comprehensive federal legislation is unlikely to be enacted within the next few years." Nonetheless, it noted, the EPA has used its existing authority under the Clean Air Act to address GHG emissions in the absence of federal legislative action, "including establishing an annual GHG reporting requirement." In June 2010, PG&E noted, "the EPA adopted the final tailoring rule to phase-in permit requirements for construction of new sources of GHG emissions, such as power plants and natural gas compressor stations, if the GHG emissions from these sources would exceed certain thresholds," as well as for "major modifications proposed to be made to existing facilities that emit GHGs that meet the threshold." PG&E highlighted that the EPA rules "require owners of these facilities to use the best available control technology to minimize GHG emissions." It is the "uncertainty" surrounding what constitutes "the best available control technology" that has PGE& concerned and "may cause permitting delays."

Furthermore, the EPA released final mercury and air toxic standards for new emission sources in December 2011, which "set emission limits for new and existing sources of GHG emissions, specifically coal- and oil-fired power plants," PG&E pointed out. While PG&E "does not own any coal- or oil-fired power plants, it said, "it does procure a small portion of electricity from plants that use coal and oil," and the EPA's regulation "could increase the price for this power."

With that said, "All of the EPA's major GHG regulatory actions under the Clean Air Act, including the tailoring rule, are being challenged in federal court and are not likely to be resolved until mid- to late 2012, or later," PG&E predicted.

The company said it also was being affected by regulations coming into effect under the California Global Warming Solutions Act of 2006 being implemented by the California Air Resources Board (CARB), which require the gradual reduction of GHG emissions in California to 1990 levels by 2020. Emitters will have the option to buy options to emit greenhouse gases beyond allowances by purchasing them through an emissions trading program. PG&E said it expected to pass along compliance costs associated with the California rules to customers through rate increases, and it also said it expected to increase its use of renewable energy. The latter is also intended to comply with a law enacted in 2011 requiring utilities in California to gradually increase the amount of renewable energy delivered to their customers to at least 33 percent of the total amount of electricity retail sales by 2020.

PG&E said it continued to develop a broader climate strategy that takes into account regulatory requirements, as well as adaptation strategies to address predictions by climate scientists. For example, it said, "climate scientists project that, sometime in the next several decades, climate change will lead to increased electricity demand due to more extreme and frequent hot weather events," and "climate scientists also predict that climate change will result in significant reductions in snowpack in parts of the Sierra Nevada Mountains." The former might dramatically impact demand, while the latter, the company said, has implications for its hydroelectric generation. For now, PG&E said it was focusing on energy efficiency programs to reduce demand, as well as taking steps to reduce the release of methane, a GHG released as part of the delivery of natural gas, by replacing "a substantial portion of its older cast iron and steel gas mains and implemented a technique called cross-compression, a process by which natural gas is transferred from one pipeline to another during large pipeline construction and repair projects." Cross-compression, the company said, "reduces the amount of natural gas vented to the atmosphere by 75 to 90 percent." PG&E voluntarily reports its GHG emissions to The Climate Registry and publishes third-party-verified GHG emissions data in its annual sustainability report.

- Similarly, **NRG Energy** warned in its 10-K, "Policies at the national, regional and state levels to regulate GHG emissions could adversely impact NRG's result of operations, financial condition and cash flows." It said that "the impact of further legislation or regulation of GHGs on the Company's financial performance will depend on a number of factors, including the level of GHG standards, the extent to which mitigation is required, the applicability of offsets, and the extent to which NRG would be entitled to receive CO2 emissions credits without having to purchase them in an auction or on the open market."

  NRG Energy also noted that it operates generating units in Connecticut, Delaware, Maryland, Massachusetts, and New York that are subject to the Regional Greenhouse Gas Initiative, or RGGI. "While 2009 through 2011 RGGI CO2 allowance prices have remained low," the company said, "the impact of RGGI on future power prices (and thus on the Company's financial performance), indirectly through generators seeking to pass through the cost of their CO2 emissions, cannot be predicted."

  In addition, the company said, "under certain conditions, GHG emissions from power plants are subject to existing sections of the [Clean Air Act] including Prevention of Significant Deterioration and New Source Review, or PSD/NSR, and Title V permitting," and "implementation practices under the PSD/NSR and GHG performance standards that may be set under Section 111 will determine the extent to which power plant operations are affected over time."

  It also noted that climate scientists associate climate change with more severe weather events, which could have significant implications for the utility's operations. NRG said it anticipates reductions in its future emissions as it implements "its strategy to add more renewable sources like wind and solar, modernize the fleet…improve generation efficiencies, explore methods to capture CO2, and seeks ways to offset GHGs."

  As part of its core strategy, NRG said it had "started and intends to continue to invest significantly in the development and acquisition of renewable energy projects, primarily solar." The company said it intends "to capitalize on first mover advantage in a high growth segment of NRG's business, the Company's existing presence in regions with attractive renewable resources and the prevalence, in the Company's core markets, of state-mandated renewable portfolio standards." In addition, NRG entered into a joint venture with GE and ConocoPhillips in January 20011 "to invest in venture-stage and growth-stage next generation energy technology companies," including "renewable power generation, smart grid, energy efficiency, emission controls, oil, natural gas, coal and biofuels." By the end of 2011, NRG Energy had invested $14 million in companies through the joint venture.

- By contrast on regulation, **Exelon** said in its sustainability report that it has "advocated for federal, economy-wide greenhouse gas legislation as the most efficient way of addressing climate change" for more than a decade. Despite the lack of federal legislation, Exelon said, it continued "to make investments under Exelon 2020 [its sustainability strategy] that consider the value of GHG emission reductions." Nonetheless, it said, "we believe that the best approach to implementing lower emission technologies today is to let competitive markets—rather than costly technology-specific legislative mandates or subsidies—determine the most cost-effective clean energy technologies."

  Exelon observed that several "environmental rulemakings (including the Mercury and Air Toxics Rule and the Cross-State Air Pollution Rule) have been pursued by the U.S. Environmental Protection Agency (EPA) under the Clean Air Act." Exelon said it "supports these rules, as they will improve the health of our customers, employees and communities; provide regulatory certainty so that both competitive and regulated companies can make prudent investment decisions; and ultimately spur investment in cleaner, more efficient generation."

Exelon noted that it already had "retired four less efficient generating units (with the retirement of Eddystone Unit 2 in May 2012) and is installing additional air pollution controls at Conemaugh Generating Station in advance of compliance dates."

It also pointed out that it has the largest nuclear fleet in the United States, and it "believes nuclear power is a clean, safe, affordable way to meet energy demands…" Therefore, it noted it also backed "national policies that will encourage the extended and expanded operation of existing plants." It added that it continued to invest in its nuclear plants to improve safety and address new rules from the EPA on cooling water intakes under the Clean Water Act (CWA).

Exelon also said it was working on energy efficiency and had launched several programs over the past three years to promote energy conservation among its five million customers, which saved 3.7 million megawatt hours of electricity. These programs, it said, included residential lighting and appliance programs. Exelon also noted that its PECO utility was one of only six in the United State to receive major stimulus funding worth $200 million from the U.S. Department of Energy's Smart Grid Investment Grant in late 2009, and PECO was using the money to deploy 600,000 smart meters to PECO customers by 2013 and 1.6 million by 2020, "which will equip customers with information and tools to better manage their energy use" and "enables PECO to respond to outages and customer requests more efficiently." Exelon said its ComEd utility would leverage money from Illinois to deploy smart meters there; the company had already installed 128,000 smart meters across the state.

The company also is offering customers the options to purchase renewable energy certificates for hydroelectric, landfill gas energy, solar energy and wind energy, and the certificates were supporting the construction of renewable energy assets across its system, as well as Exelon's utilities' transition to renewable energy in compliance with state requirements in Illinois and Pennsylvania. PECO's wind assets, it noted, had already become the fifth largest in the country.

- Meanwhile, **NextEra Energy** said in its sustainability report that it was focused on maintaining its position as a "clean…low-cost, reliable electricity" provider. It noted that its utility, FPL, "had the lowest average customer bill of any of the 55 utility providers in Florida for the third year in a row" and recorded its "lowest air emissions rates ever," which "were also significantly below national averages." For example, it noted, its emissions rate of:
    - Sulfur dioxide (SO_2) was 0.25 pounds per megawatt hour (MWh) in 2011, which was 90 percent below the U.S. electric sector average of 2.44 pounds per MWh.
    - Nitrogen oxide (NO_x) was 0.23 pounds per MWh in 2011, 80 percent below the industry average of 1.13 pounds per MWh.
    - Carbon dioxide (CO_2) was 609 pounds per MWh in 2011, or 51 percent below the industry average of 1,244 pounds per MWh.

"Achieving these industry-leading emissions rates is a result of our multifaceted approach," NextEra Said. First, it is "developing, building and operating zero-emissions renewable energy generation." It underscored that it was the largest generator of wind energy in North America in 2011, with 8,569 megawatts (MW) of capacity at 88 facilities in 17 states and three Canadian provinces and had invested more than $13 billion in wind through 2011. NextEra Energy also is the largest generator of utility-scale solar power in the United States with 310 MW of solar power in California and 110 MW of solar generation in operation in Florida. It noted it had additional investments on tap. Second, it is "modernizing older, less-efficient fossil generation facilities and building efficient, state-of-the-art, clean, natural gas-fueled plants." Third, it is upgrading its existing nuclear fleet of eight units to increase power rates. Fourth, it is "installing the best available environmental controls at fossil plants to dramatically lower air pollutant emissions." Finally, it is making its vehicle fleet cleaner by switching to biodiesel-powered and hybrid-electric vehicles—and has converted 85 percent of its fleet.

Environmental management: Utilities were the mostly likely companies to address risks and opportunities related to environmental management in 10-K filings and annual reports, and more than 90 percent addressed risks in 10-K filings alone. Most focused on systems to address compliance with regulations, as well as prodder management systems modeled after ISO 14001 and similar certification standards. For example:

- **PG&E** said in its sustainability report that it had an Environmental Management System (EMS) based on the ISO 14001 environmental management standard. While it had not obtained ISO 14001 certifications for its facilities, PG&E said it had "performed an independent third-party gap analysis relative to the ISO 14001 standard to create an EMS enhancement plan," and the EMS enhancement plan "incorporates a comprehensive review of our aspects and impacts by each line of business." It added that it would "work with each operational line of business to develop specific environmental goals and objectives based on those results ensuring that we have appropriate management plans in place for areas with the largest potential impacts to the environment" throughout 2012.
- Likewise, **Exelon** said in its sustainability report that its environmental management system, also designed to conform to ISO 14001, "lays out the necessary steps to maintain responsible operations and has helped improve the company's compliance performance." It also noted that almost 80 percent of its operations "have been independently certified by NSF-ISR (an independent auditor) as conforming to the ISO 14001 standard." Exelon disclosed that it had received five notices of violation from regulatory agencies in 2011 for:
    - Exelon Nuclear's "failure to maintain temperature monitors in Salt Creek at Clinton Generating Station."
    - Exelon Nuclear not completing the coating of its storage tanks in advance of a PA DEP inspection at its Limerick Generating Station.
    - Exelon Power's "release of a water treatment chemical into a storage tank's secondary containment at Cromby Generating Station."
    - ComEd's "nuisance abatement" along a tenant-occupied right of way.
    - PECO's "release of mineral oil into Naylor's Run in Upper Darby due to the failure of an oil-filled high-voltage cable."

  Exelon also tracked 10 permit non-compliance events and incurred $3,045 in environmental fines in 2011.
- **Consolidated Edison** said in its sustainability report that it had developed a unified environmental, health and safety management system (EHSMS) "to improve our performance and reduce risk." It noted that its EHSMS established standards "as an integral part of the company's business practices and hold all employees accountable for knowing those that apply to their work." Consolidated Edison added that they also form the "cornerstone" for strategic planning; "comprise written general rules and regulations" and "provisions for monitoring their use and effec-

tiveness;" and are included in "considerations during planning phases." The company said its system also incorporated extensive employee training, including on job-specific risks and safety equipment, regular communications and safety meetings, publications, intranet resources, monthly videos, and union/management committee meetings. Contractors working on Consolidated Edison's properties receive similar training. In addition, the system also assists senior management in identifying and evaluating risks in this area and addressing them in planning. The company also tracks performance I this area in databases, generates reports, and analyzes trends "to determine likely causes of problems and identify opportunities for performance improvement." Finally, its facilities are audited for compliance with the management system and associated work rules.

Water use: Two thirds of Utilities discussed risks related to water use in 10-K filings, and 40 percent also talked about opportunities in this area, mostly in sustainability reports. For example:

- **Pinnacle West Capital** said in its 10-K filing, "Assured supplies of water are important for APS's generating plants." (APS is a utility Pinnacle owns in Arizona.) At the present time, it said, "APS has adequate water to meet its needs," but "the Four Corners region… has been experiencing drought conditions that may affect the water supply for the plants if adequate moisture is not received in the watershed that supplies the area." Pinnacle noted that "APS is continuing to work with area stakeholders to implement agreements to minimize the effect, if any, on future operations of the plant." It noted, "The effect of the drought cannot be fully assessed at this time, and APS cannot predict the ultimate outcome, if any, of the drought or whether the drought will adversely affect the amount of power available, or the price thereof, from Four Corners." Furthermore, it said, "Conflicting claims to limited amounts of water in the southwestern United States have resulted in numerous court actions, which, in addition to future supply conditions, have the potential to impact APS operations."
- Meanwhile, **Public Service Enterprise Group (PSEG)** noted in its sustainability report that it had a "long history as a steward of water resources in the areas where we operate." While none of its plants are in a water-stressed area, it noted that "New Jersey is also one of the most populated and developed areas of the United States and is beginning to experience water resource constraints on a localized basis." At the same time, PSEG noted that its "power plants use water to drive steam turbines, for cooling in boilers and to reduce air emissions." Therefore, the company began implementing a new Environmental Management Information System (EMIS) in 2011 "designed to automatically collect flow, intake, treatment and qualitative and quantitative pollutant discharge data from our plants in a centralized database," and PSEG said it was using the data to better manage its water use and reduce the water intensity of its energy production.
- Likewise, **Duke Energy** underscored in its sustainability report that "water is a critical resource for Duke Energy." Beyond "providing hydropower and cooling water for our nuclear and fossil plants," the company said, "water resources support public water systems, industries, wildlife and recreation." At the same time, Duke Energy said, "increasing water demands and periodic drought conditions remain challenges for our company, particularly in the Carolinas." Therefore, it said it is working to protect water supplies "by investing in more efficient technologies and by continuing to work with public and private-sector partners to improve water management." It also is modernizing its generation fleet with new technologies that make more efficient use of water.

Hazardous waste: As with climate change, Utilities were the most likely to disclose risks and opportunities related to hazardous waste across all three types of documents included in the study. Some of these were highlighted by nuclear plant operators and related to the storage and disposal of spent nuclear fuel rods. Other dealt with other aspects of toxic chemicals associated with the operation of generation equipment. For example:

- **PPL** observed in its 10-K that federal law "requires the U.S. government to provide for the permanent disposal of commercial spent nuclear fuel, but there is no definitive date by which a repository will be operational." As a result, it "was necessary to expand Susquehanna's on-site spent fuel storage capacity." To support the expansion, "PPL Susquehanna contracted for the design and construction of a spent fuel storage facility employing dry cask fuel storage technology," and the facility began receiving and storing spent nuclear fuel in 1999. The company estimates "that there is sufficient storage capacity in the spent nuclear fuel pools and the on-site dry cask storage facility at Susquehanna to accommodate spent fuel discharged through approximately 2017 under current operating conditions." If it gains the necessary regulatory approvals and is able to expand, it noted, it could accommodate its spent fuel storage needs through 2044. While risks still loom with permitting, the company won a longstanding battle with the Department of Energy over its responsibility to store spent fuel and received a $50 million judgment in its favor in 2011 based on a ruling by the U.S. Court of Federal Claims.

  PPL also disclosed that it has liabilities under requirements covering air pollutants and projected expenditures of $3.1 billion for its operations over the next five years. These include measures to comply with the EPA's new clean air rules, including those covering mercury and other hazardous air pollutants, and to manage coal combustion residuals (CCRs), including fly ash, bottom ash and sulfur dioxide scrubber wastes, under new rules proposed by the EPA.

  The company advised that there are considerable variables in play for these requirements, as the EPA's new clean air requirements are being challenged in court and its new rules are not finalized on coal. On the latter, PPL noted that one EPA proposal would have CCRs regulated as a hazardous waste under Subtitle C of the Resource Conservation and Recovery Act (RCRA). This approach, PPL said, "would have very significant impacts on any coal-fired plant, and would require plants to retrofit their operations to comply with full hazardous waste requirements for the generation of CCRs and associated waste waters through transportation and disposal," and it also could "have a negative impact on the beneficial use of CCRs and could eliminate existing markets for CCRs." The second approach, PPL said, "would regulate CCRs as a solid waste under Subtitle D of the RCRA," which "would mainly affect disposal and most significantly affect any wet disposal operations. Under this approach, many of the current markets for beneficial uses would not be affected." PPL noted that the EPA has requested and it has given to the EPA information on its management and disposal of CCRs.

  PPL discussed a 2005 incident related to the release of approximately 100 million gallons of water containing fly ash from a disposal basin at its Martins Creek plant used in connection with the operation of the plant's two 150 MW coal-fired generating units. "This resulted in ash being deposited onto adjacent roadways and fields, and into a nearby creek and the Delaware River," PPL said," and was "caused by a failure in the disposal basin's discharge structure." PPL said it "conducted extensive clean-up and completed studies, in conjunction with a group of natural resource trustees and the Delaware River Basin Commission, evaluating the effects of the release on the river's sediment, water quality and ecosystem." To date, it said it had spent $28 million for remediation and related costs connected with the incident. While it has been challenged in court over the accident and its ensuing cleanup activities, it had settled these claims for now.

- Similarly, **Ameren** 10-K that it was "involved in a number of remediation actions to clean up hazardous waste sites as required by federal and state law." It noted that:
    - Ameren Missouri and Ameren Illinois have each been identified by the federal or state governments as a potentially responsible party (PRP) at several contaminated sites—44 in Illinois and 10 in Missouri. The sites are at differing stages of assessment and remediation, according to Ameren. The company estimated liabilities associated with these sites at between $107 and $183 million and recorded a contingency of $107 million for them.
    - Ameren Illinois "is responsible for the cleanup of a former coal ash landfill in Coffeen, Illinois…had estimated the obligation at $0.5 million to $6 million and recorded a liability of $0.5 million," the company said. Ameren Illinois also is "responsible for the cleanup of a landfill, underground storage tanks, and a water treatment plant in Illinois," and it "recorded a liability of $0.8 million to represent its best estimate of the obligation for these sites."
    - Ameren Missouri "has responsibility for the investigation and potential cleanup of two waste sites in Missouri as a result of federal agency mandates." One is a former coal tar distiller, and the other is a distillery. Ameren Missouri had estimated its obligation at $2 million to $5 million and recorded a liability of $2 million associated with the actions. It also had potential obligations associated with former landfills and lagoons in Sauget, Illinois, that may contain soil and groundwater contamination with estimated obligations between $0.3 million to $10 million. It recorded $0.3 million in liabilities associated with Sauget. (Other companies also have accepted responsibility for the site.)

  Ameren also discussed potential obligations under new rules from the EPA covering mercury and other air pollutants, as well as for coal combustion residuals. It said it is awaiting final rules to determine what additional controls and environmental remedies might be needed.

- **CMS Energy** reviewed coal combustion residuals in its sustainability report too. It noted that its coal-fired plants create ash residue, also known as a coal combustion byproduct (CCB). The components include fly ash, which forms in tiny particles, is "removed from flue gas by emissions control devices," and is "transported and placed in the landfills in a dry form, which substantially reduces the risk of storage area dike failures and leakage." The other components, bottom ash and slag, the company said, "are collected in the bottoms of boilers using a wet slurry method." CMS Energy said it had invested $80 million over the past decade to convert its fly ash handling systems to dry systems, which "reduce water entering the landfill by 90 percent and significantly reduce the potential to release contaminants into the environment."

  The company noted that the EPA proposed a rule for disposal of CCBs from electric utilities in July 2010. It said, "While we support regulation of ash impoundments, we believe coal ash should not be reclassified as a hazardous waste." Furthermore, the company said, "Many state regulators and policymakers agree with our position and have shared their views with the EPA." CMS Energy added, "This is an important issue for our company since coal-fired generation, as outlined in our Balanced Energy Initiative, remains an important component of our energy mix." While the company said it understood that "following the Tennessee Valley Authority incident the public is legitimately concerned about safely managing coal ash," it noted that it and other companies had taken actions to respond to these concerns.

Waste management: Three-fifths of Utilities talked about the management of non-hazardous waste and related recycling efforts. While not a huge risk or priority for Utilities, several had found ways to generate revenues and reduce costs associated with addressing this sustainability risk. For example:

- **ONEOK** said in its sustainability report that its three natural gas distribution companies "offer electronic billing to customers as an alternative to standard paper billing statements," and more than 133,000 customers, or 6.3 percent, had taken advantage of the program. In addition to being more efficient for customers, the company noted, it also "saves the company time and money and decreases the amount of paper used for customer bills." Since 2008, the company estimated that the program had reduced its paper use by 60 tons and saved it more than $1.5 million.
- **Dominion Resources** noted in its sustainability report that its recovery group "was able to recycle close to 30 million pounds of scrap metal from electric transformers, wire and cable, circuit breakers, motors, pumps, valves and other surplus equipment" and generated $10 million from these efforts. Similarly, Dominion's gas transmission business recycled surplus steel pipes, valves, flanges and other materials and netted $1.2 million in cash and more than $4.1 million in additional savings through the reuse of idle surplus assets.
- **NRG Energy** said in its sustainability report that it had recycled 1.1 million tons of coal ash, generating more than $4 million. The coal ash is used in Portland cement and structural fill. It also reported that it earned more than $1.7 million through resource recovery efforts tied to equipment, material and scrap metal.

Product formulations: More than half of the Utilities talked about product formulations, mostly in the context of developing renewable energy capacity (some examples also can be found above under climate change) but also in creating tools for consumers to save energy and other energy efficiency solutions. For example:

- **Duke Energy** in its 10-K filing reviewed its renewable energy strategy to address "concerns of climate change and energy security, carbon emissions and a desire to stimulate energy related to economic development," which it said had created growing government support of renewable energy legislation at both the federal and state level. For example, the company observed, North Carolina "established a renewable energy and energy efficiency portfolio standard (REPS) for electric utilities, and in 2008, the state of Ohio also passed legislation that included renewable energy and advanced energy targets."

  In Ohio, Duke Energy is required to increase the percentage of renewables as part of its resource portfolio based on a three-year historical average of its load to 0.25 percent of the baseline load from all renewable resources, including 0.004 percent to be specifically from solar, beginning in 2009, increasing to 12.5 percent total renewable, with 0.5 percent from solar by 2024. Of these percentages, at least 50 percent of each resource type must come from assets inside Ohio. To address this legislation, Duke Energy said it "initiated several acquisition activities focused on meeting the specific near-term…requirements."

  In North Carolina, the new rules enacted in 2007 dictate that renewable energy must equal 0.02 percent of retail sales beginning in 2010 and increase to 12.5 percent by 2021, although a portion of the requirement can be met through energy efficiency programs and out-of-state renewable energy credits. In response, Duke Energy Carolinas is making similar investments in renewables and is recouping the majority of its costs through rate increases. Duke Energy said similar rules are pending in Indiana.

Overall, Duke Energy said it generated more than 1,000 megawatts of electricity at 10 wind farms it owns in Colorado, Kansas, Pennsylvania, Texas, Wisconsin and Wyoming, and it is constructing five additional large-scale wind farms that will be operational by the end of 2012. It also purchases 100 megawatts of wind power from a farm in Indiana. Since 2007, it said it had invested $2.5 billion to grow its wind power business. Duke Energy also owns 11 solar farms (in Arizona, Florida, North Carolina and Texas) that together generate 50 megawatts of power, and it purchases solar power through several independently-owned North Carolina solar farms.

- Similarly, **Sempra Energy** said in its sustainability report that "climate change is an issue that affects our business in a fundamental way, presenting both risks and opportunities." It explained, "While there are risks related to compliance with regulations that limit air pollution and the potential for sea level changes and increasing temperatures that may affect our operations, we believe our focus on a low-carbon business model keeps us well-prepared to provide the energy solutions needed in a low-carbon world." It said it plans to invest nearly $14 billion to bring cleaner energy and infrastructure to its customers between 2012 and 2016.
- Meanwhile, **CMS Energy** noted it in its sustainability report that it had "introduced an energy optimization program for our electric and natural gas customers to encourage the purchase and installation of high-efficiency appliances, air conditioners and furnaces," beginning in 2009. It noted, "The program helps customers better manage their energy use and costs and reduces the need to build new generating plants," and they also "help reduce air emissions and improve air quality." In 2011 alone, it noted, "these programs helped reduce customers' electric usage by 352,422 megawatt-hours and natural gas usage by 1,633,195 thousand cubic feet," and from July 2009 through mid-2011, it said, "customers have saved more than $92 million through the company's energy efficiency programs." CMS added that it would invest $660 million in energy efficiency programs from 2009 to 2015 and another $550 million on renewable energy investments from 2012 to 2016.

Employment: For a labor-intensive sector with a skilled workforce working, at times, under potentially dangerous conditions, employment presented risks and opportunities for Utilities related to unionization, pension obligations, health and safety, and employee recruitment and retention in the face of aging workforces approaching retirement, as well as opportunities in diversity and workplace productivity initiatives. In all, 70 percent of Utilities disclosed risks and opportunities in these areas. For example:

- **NRG Energy** warned in its 10-K that its "business, financial condition and results of operations could be adversely impacted by strikes or work stoppages by its unionized employees or inability to replace employees as they retire." It noted that collective bargaining agreements covered about 63 percent of its workforce at U.S. generation plants. Further, "in the event that the Company's union employees strike, participate in a work stoppage or slowdown or engage in other forms of labor strife or disruption," it said, "NRG would be responsible for procuring replacement labor or the Company could experience reduced power generation or outages." It added, its "ability to procure such labor is uncertain," and "strikes, work stoppages or the inability to negotiate future collective bargaining agreements on favorable terms could have a material adverse effect on the Company's business, financial condition, results of operations and cash flow." NRG Energy, like many other utilities, faces an aging workforce, and it noted that many of its employees at its plants were close to retirement. "The Company's inability to replace those workers could create potential knowledge and expertise gaps as those workers retire," it noted.
- Likewise, **Southern** said in its 10-K, "Failure to attract and retain an appropriately qualified workforce could negatively impact Southern Company's and its subsidiaries' results of operations." It

added, “Events such as an aging workforce without appropriate replacements, mismatch of skill-set to future needs, or unavailability of contract resources may lead to operating challenges or increased costs,” and “such operating challenges include lack of resources, loss of knowledge, and a lengthy time period associated with skill development…” Moreover, it said, “Failure to hire and adequately obtain replacement employees, including the ability to transfer significant internal historical knowledge and expertise to the new employees, or the future availability and cost of contract labor may adversely affect Southern Company and its subsidiaries’ ability to manage and operate their businesses.”

- Meanwhile, **Edison International** said in its 10-K that “the generation, transmission and distribution of electricity are dangerous and involve inherent risks of injury to employees and the general public.” Injuries caused by contact with power lines or electrical equipment, it said, could subject it to “significant” liabilities beyond the coverage of its insurance policies.
- And **Consolidated Edison** said in its 10-K that it had “substantial unfunded pension and other postretirement benefit liabilities.” While its utilities expected to make substantial contributions to their pension and other postretirement benefit plans, it warned, “Significant declines in the market values of the investments held to fund the pension and other postretirement benefits could trigger substantial funding requirements under governmental regulations.”
- In describing its workforce strategy, **Entergy** noted in its sustainability report that it “depends on skilled employees to deliver the power that customers need.” To attract and retain valued employees, it said it had developed talent management, diversity, employee engagement, health and safety, and wellness programs. In addition to competitive compensation and benefits packages, it said it offered employees educational opportunities, including mentorship, leadership training, professional development and continuing education, which also assisted the company in workforce planning.

  Entergy measured the financial and non-financial impact of its talent development efforts using a variety of indicators including: cost per employee, percentage participation in development programs, participation in elective versus required programs, compliance with mandatory training for specific job groups and human capital return on investment metrics. Furthermore, it pointed to research from the American Public Power Association, which “projects a significant portion of public power workers will be eligible to retire in five to seven years, raising concerns over loss of critical knowledge and the ability to find qualified replacements.” It said its talent management efforts were helping it to meet this challenge.

  On employee engagement, Entergy said it facilitated face-to-face meetings within departments and with senior leadership, published newsletters and offered resources online for employees to network and learn more about company initiatives and opportunities. It also conducts “periodic employee surveys to measure satisfaction and engagement, with employees rating a number of areas including pay, recognition, leadership and supervision, satisfaction with the company, development, safety, resource availability and teamwork.”

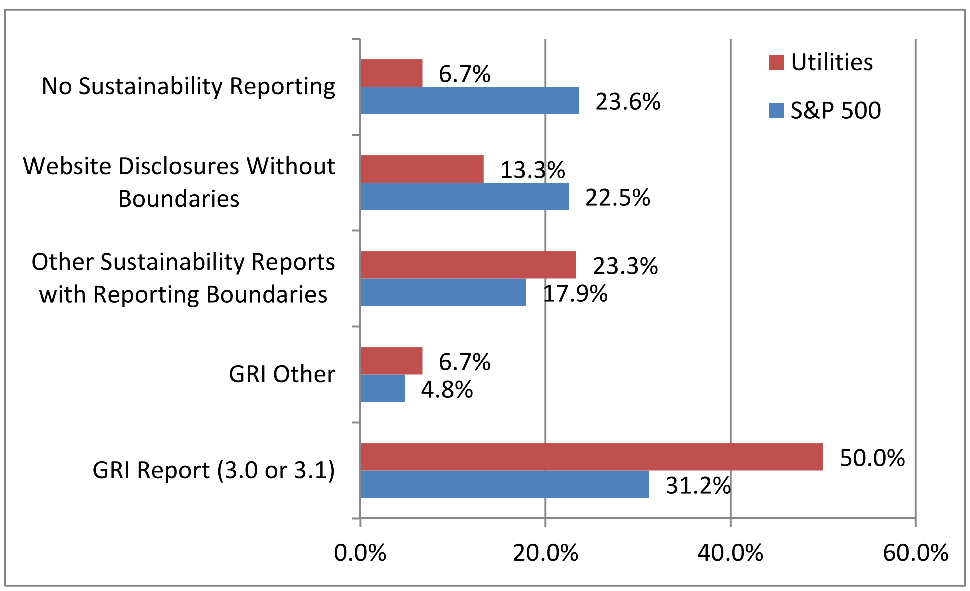
  On health and safety, it said it had a comprehensive operational excellence and management system modeled on ISO 14001, including extensive training, monitoring with metrics, and auditing. In 2007, it also had set a five-year goal to reduce its recordable accident index and lost workday incident rate by 50 percent, using 2004 as a baseline, as well as to eliminate workplace fatalities. By the deadline in 2011, it said, it had reduced its recordable accident index by 44 percent and its lost workday incident rate by 29 percent, short of its targets. It also recorded one fatality. It said it was developing new goals and strategies for 2020.

It also had implemented a wide range of wellness programs in coordination with its insurer, Aetna, to cut employee absenteeism and boost productivity, as well as to decrease insurance costs. The programs target good behaviors such as health eating and exercise, regular doctor's exams, as well as the elimination of bad habits such as smoking. It also said that "diversity is a business imperative, helping us achieve concrete business results." Entergy said it went beyond equal opportunity employment and legal requirements to "embrace diversity as a strategic competitive advantage," including training managers to operate effectively in a diverse workplace and forming 20 diversity and inclusion councils and employee resource groups.

Mine safety: A handful of Utilities were engaged in coal mining and, therefore, the sector had above average rates of reporting on mine safety in compliance with Dodd-Frank requirements—10 percent did so. For example:

- **TECO Energy** in its 10-K reported on its mines in Kentucky, Tennessee and Virginia. It said its mines were subject to federal and state requirements covering such areas as the "approval of roof control, ventilation, dust control and other facets of the coal mining business" and subject to regular inspections. TECO said it believed it was "in substantial compliance with the standards of the various enforcement agencies" and was "unaware of any mining laws or regulations that would materially affect the market price of coal sold by its subsidiaries, although recent mining accidents within the industry could lead to new legislation that could impose additional costs on TECO Coal." Its exhibit submitted in compliance with Dodd-Frank requirements contained no fatalities, $892,900 in proposed fines, and 786 pending legal actions.
- **FirstEnergy** reported on its Signal Peak Mine in compliance with Dodd-Frank. It disclosed zero fatalities, $8,209 in proposed assessments and 35 pending legal actions.

Sustainability reporting: As noted earlier, Utilities were topped only by transportation in the percentage of companies producing sustainability reports, and 93.3 percent of Utilities engaged in sustainability reporting. The sector also was much more likely to use GRI than the S&P 500 with 56.7 percent doing so compared with 36 percent for the broader index. *(See bar chart.)*



Financial in sustainability reporting: Out of the firms reporting sustainability information, 39.2 percent offered consolidated or full financials with sustainability information, while another 57.1 percent included general economic overviews. The sector was the most likely to engage in this practice.

Board diversity: Half of the Utilities, compared with 37.2 percent of the S&P 500, mentioned gender and/or race as criteria for director nominees in their proxy statements, making the sector the third most likely to do so. For example, **Edison International**, said in its proxy statement:

> Our Corporate Governance Guidelines state the Board's policy that the value of diversity on the Board should be considered. The Committee considers ethnic and gender diversity, as well as diversity of skills, backgrounds and qualifications represented on the Board, in recommending nominees for election. In 2011, the Committee discussed the value of diversity on the Board at two Committee meetings. In 2008 and 2011, the Committee retained a director search firm and instructed it to identify and coordinate interviews with candidates reflecting ethnic and gender diversity.

Pay links: Utilities were the most likely to link executive pay to environmental (53.3 versus 13.3 percent for the S&P 500), social (76.7 versus 27.2 percent) and ethical (30 versus 10.7 percent) criteria.

- One in the sector hitting all three areas, **Pepco Holdings**, linked pay for several named executive officers to "diversity as measured by the attainment of, or good faith efforts toward the attainment of, established affirmative action goals;" safety "as measured by the absence of fatalities and the number of recordable injuries and fleet accident… environmental compliance…and ethical behavior."
- Another, **DTE Energy**, linked executive pay to corporate image, using a "methodology developed by Market Strategies International;" employee engagement, as measured by the "DTE Energy Company Gallup Grand Mean score;" safety, using the "Number of Occupational Safety and Health Administration (OSHA) defined recordable injuries in the calendar year per 100 employees (working an average of 2,000 hours per year, per employee) divided by the actual number of hours worked;" and diversity hiring, measured by "the percentage of minority and women non-represented placements (new hires and promotions)."

Points: Utilities scored the highest number of average points (33.6) and bested the S&P 500 average (17.5) by more than 16 points in Si2's evaluation. The highest scorer in the sector (and overall), **American Electric Power (AEP)** racked up 64 points and is profiled below.

Sector Profile: American Electric Power (AEP)

American Electric Power (AEP) owns seven regional electric utilities serving customers in 11 states and has nearly 38,000 megawatts of power capacity. It also operates a 39,000-mile electricity transmission network—the largest in the nation—and more 765 kilovolt, extra-high voltage transmission lanes than all other U.S. transmission networks combined. In addition, it provides electricity to customers in deregulated markets, and it runs one of the country's largest barge companies, transporting coal and other cargo. Approximately 90 percent of the electricity generated by AEP is produced by the combustion of fossil fuels. AEP was one of six truly integrated reporters in the study and published an annual financial and sustainability report in 2012 using GRI's 3.1 guidelines and verified as an A-level report by GRI—the 2012 AEP Corporate Accountability Report, its third integrated annual report. It also included a statement on the activities of the International Integrated Reporting Council (IIRC) and the important connections between sustainability and financial performance. In addition, it achieved the top company score in Si2's integrated reporting evaluation—64.

As with other utilities, AEP's climate change discussion was substantial, covering regulatory prospects and related uncertainties, as well as competitive and physical risks, as was information on hazardous materials and related contingencies and liabilities. Like the rest of the industry, AEP was grappling with the challenges of replacing a large portion of its work force, which is nearing retirement, as well as the many health and safety challenges facing an industry with many hazards, and its employment disclosures also were very extensive.

AEP President & CEO Nicholas K. Akins summed up the challenge as follows in the company's annual integrated report:

> We face new realities and a challenging transition, both as an industry and as a company. But I am confident we will navigate this transition successfully. We must manage a combination of economic, business, social, environmental, political and regulatory risks at the federal, state and local levels. These include a slower-than-expected economic recovery; intense competition in the competitive parts of our business; and burdensome government regulations that will necessitate the premature retirement of coal-fired generating units in six states, causing further economic hardship.

Climate change: In its 10-K filing, AEP pointed out that "public policy makers and regulators in the 11 states we serve have conflicting views on global warming." Given the ambiguity, AEP said it was "focused on taking, in the short term, actions that we see as prudent, such as improving energy efficiency, investing in developing cost-effective and less carbon-intensive technologies and evaluating our assets across a range of plausible scenarios and outcomes." At the same time, it said, it would continue to be "active participants in a variety of public policy discussions at state and federal levels to assure that proposed new requirements are feasible and the economies of the states we serve are not placed at a competitive disadvantage."

Regulatory risks—In an interview published in AEP's integrated annual report with its board, one of its directors, Richard Sandor, former chairman and founder of the Chicago Climate Change, said on regulation:

> The United States needs an energy policy. Unfortunately, there is very little push from the grassroots up to demand this of leaders in Washington. In 1973, then-President Nixon called for an energy policy; 40 years later we still don't have one. We need to advocate for a policy that creates an environment where the electric industry, AEP, its customers, shareholders and other stakeholders have certainty about energy policy and energy security in this country.

While comprehensive federal regulation of CO2 emissions appears unlikely now, AEP noted that the "EPA continues to take action to regulate CO2 emissions under the existing CAA, permitting programs for new sources, and is expected to propose new source emissions standards for fossil fuel-fired plants in 2012."

In addition, AEP said several states had "adopted programs that directly regulate CO2 emissions from power plants, but none of these programs are currently in effect in states where we have generating facilities." However, Michigan, Ohio, Texas and Virginia, where the company has operations, have passed legislation establishing renewable energy, alternative energy and/or energy efficiency regulations, and AEP said it was taking steps to comply with these requirements. To meet them, it said it was working to boost its renewables portfolio and by the end of 2011 had secured 1,893 megawatts of wind and solar power through power purchase agreements. In an update in its annual integrated report, AEP said it had secured contracts for 1,500 megawatts of wind and solar contracts by the end of 2011 and added another 100.8 megawatts in January 2012, bringing its total to 1,601 megawatts. It was awaiting regulatory approval for an additional 49.9 megawatts for a solar project in Ohio and other outstanding contracts, which would bring its total for wind and solar to 1,994 megawatts in 2012.

Beyond requirements, AEP said that it was taking "measurable, voluntary actions to reduce and offset our CO_2 emissions." Through the end of 2010, it reduced emissions by a cumulative 96 million metric tons from adjusted baseline levels in 1998 through 2001 under the Chicago Climate Exchange (CCX) rules, and its total CO_2 emissions in 2010, as reported to CCX, were 138 million metric tons. Its emissions in 2011 were up 0.7 percent to 139 million metric tons. AEP had been investing in developing carbon capture and storage technology. Unfortunately, it said in its annual report, "our efforts were penalized when regulators rejected our request to recover the cost of those investments," and it "took a $76 million write-off…on our carbon capture and storage projects in West Virginia." Nonetheless, AEP said it still sees potential in this area, although it cannot "afford to move ahead with it at this time."

In its annual integrated report, AEP underscored that energy efficiency was a key part of its climate and overall business strategy. It noted, "Energy efficiency and demand response will become even more important in the future as regulators will want to know what we have done to delay the need to build new power plants." It set a goal to reduce demand by 1,000 megawatts and energy consumption by 2,250,000 megawatt-hours by the end of 2012, and it had achieved 1,972,000 megawatt-hours of reductions, reaching 88 percent of its energy target, from 2008 through 2011. It was on target to meet its 2012 goal. To achieve these results, AEP said it invested $239 million in consumer programs between 2008 and 2011—$115 million in 2011 alone—and plans to spend $100 million annually going forward.

A key part of AEP's energy efficiency effort is its program to upgrade its distribution network to a smart grid—a move that it says is "no longer a luxury." Through its gridSMART initiative, it is "improving reliability and service restoration for customers" and proving that it can "achieve substantial energy efficiency without affecting customers through the use of voltage management on our grid." In addition, it noted, "Our smart meters are enabling two-way communication with our customers, sending them price signals that allow them to make more informed decisions about their energy use," and, "smart appliances and other technologies such as plug-in electric vehicles will provide exciting new options for customers." It said all of these developments hold promise to reduce energy usage and costs, as well as generate new business opportunities for AEP.

Notwithstanding these efforts, AEP said that "future federal and state legislation or regulations that mandate limits on the emission of CO_2 would result in significant increases in capital expenditures and operating costs, which, in turn, could lead to increased liquidity needs and higher financing costs." Moreover, it noted, "Excessive costs to comply with future legislation or regulations might force our utility subsidiaries to close some coal-fired facilities and could lead to possible impairment of assets." As a result, it warned "mandatory limits could have a material adverse impact on our net income, cash flows and financial condition."

Physical risks—The materiality of physical risks, AEP said, is dependent on how quickly they occur and the extent of the changes. The principal physical risk to AEP's operations is weather conditions. It explained, "Our customers' energy needs currently vary with weather conditions, primarily temperature and humidity," with "heating and cooling" representing the largest share of the demand pie. "To the extent weather patterns change significantly," AEP warned, "customers' energy use could increase or decrease depending on the duration and magnitude of any changes." On the one hand, "increased energy use due to weather changes could require us to invest in more generating assets, transmission and other infrastructure in the long term to serve increased load, driving the overall cost of electricity higher," AEP said. Conversely, "decreased energy use due to weather changes (i.e. milder winters) could affect our financial condition through lower sales and decreased revenues."

Economic risks—AEP noted that its "financial performance is tied to the health of the regional economies we serve," and "the price of energy, as a factor in a region's cost of living as well as an important input into the cost of goods, has an impact on the economic health of our communities." Therefore, it said, "the cost of additional regulatory requirements would normally be borne by consumers through higher prices for energy and purchased goods." However, if consumers were unable to bear these costs, it noted that it could affect AEP's revenues and overall financial health.

Litigation—AEP discussed in its 10-K filing that several parties had filed claims in several venues seeking damages from AEP and other power companies, alleging that the carbon dioxide the companies' power plants emit is a public nuisance due to its impacts on climate change. The cases include:

- In 2004, eight states and the City of New York filed an action in Federal District Court for the Southern District of New York against AEP, AEPSC, Cinergy Corp, Xcel Energy, Southern Company and Tennessee Valley Authority, and the Natural Resources Defense Council, on behalf of three special interest groups, filed a similar complaint against the same defendants. These cases have since been dismissed. (The U.S. Supreme Court rejected an appeal on the grounds that the federal common law nuisance had been displaced by the EPA's ability to regulate greenhouse gas emissions under the Clean Air Act.)
- In 2011, a group of Mississippi residents re-filed a class action suit, alleging that carbon dioxide emissions from AEP and other companies exacerbated the effects of Hurricane Katrina, in the Federal District Court for the District of Mississippi. A previous suit from the same defendants had been referred by the district court to the Fifth Circuit Court of Appeals and later to the U.S. Supreme Court but was dismissed on appeal. The district court asked defendants to respond to the re-filed complaints. AEP said it is vigorously defending against the suit.
- In 2008, the Native Village of Kivalina and the City of Kivalina, Alaska filed a lawsuit in Federal Court in the Northern District of California against AEP, AEPSC and 22 other defendants including oil and gas companies, a coal company and other electric generating companies, alleging that the defendants' emissions of CO_2 contribute to global warming and constitute a public and private nuisance. The complaint also alleges that some of the defendants, including AEP, conspired to create a false scientific debate about global warming to deceive the public and perpetuate the nuisance. The complaint also claims that the effects of global warming require the relocation of the village at a cost of $95 million to $400 million. The case is on appeal, and AEP said it is also defending against it.

AEP warned, "If these or other future actions are resolved against us, substantial modifications of our existing coal-fired power plants could be required and we might be required to limit or reduce CO_2 emissions." Furthermore, it said, "Such remedies could require us to purchase power from third parties to fulfill our commitments to supply power to our customers," and "this could have a material impact on our costs." It explained that it would have to "invest significantly in additional emission control equipment, accelerate the timing of capital expenditures, pay damages or penalties and/or halt operations." AEP said it believes it can recoup the costs from customers through rate hikes, as its rates are set on a cost of service basis. However, it warned, if it couldn't due to market conditions or other circumstances, its "costs could reduce our future net income and cash flows and harm our financial condition," which could be further hurt from expenses from "ongoing litigation."

Hazardous waste: In its 10-K filing, AEP detailed how products from the generation of electricity from its power plants, including materials such as ash, slag, sludge, low-level radioactive waste and spent nuclear fuel, as well as certain hazardous materials, including asbestos and polychlorinated biphenyls (PCBs) used in the past by its transmission and distribution facilities, are covered under the Comprehensive Environmental Response Compensation and Liability Act (Superfund) and similar state laws and regulations. Coal combustion by-products, AEP said, "which constitute the overwhelming percentage of these materials, are typically treated and deposited in captive disposal facilities or are beneficially utilized," and are exempted from Superfund and Subtitle C of the Resource Conservation and Recovery Act (RCRA), at least for now.

On PCBs, AEP said in its annual integrated report that it continued to reduce the amount of PCB-containing equipment in it system—mostly still in old transformers—and emphasized that PCBs have not been used in new electrical equipment for more than 30 years. In 2011, it said only 2 percent of its 1,901 transmission and distribution electrical equipment spills involved oil that contained 50 parts per million or greater of PCBs, and "all were cleaned up properly." AEP noted that the EPA continues to review proposals to phase out all equipment containing PCBS, which could be "very costly" for AEP, "because of the sheer volume of equipment that would be affected and the cost associated with identification and replacement."

Overall in 2011, AEP said it disposed of more than 2.6 million pounds of hazardous waste—"an unusually large volume," it noted. The greater volume was mostly attributable to 2.4 million pounds of fluid from the carbon capture and storage project at the Mountaineer Plant in West Virginia. Other waste came from heavy metals and PCB-contaminated soil, and about 1 percent was recycled, with the vast majority disposed of in licensed hazardous waste sites. It also recycled approximately 1.2 million gallons of oil, 1.2 million pounds of paper, 35 million pounds of metal, 216,000 light bulbs, 287,000 pounds of batteries and about 205,000 pounds of electronic equipment such as computers and phones, keeping it out of landfills.

The EPA published a proposed rule to regulate the disposal and beneficial re-use of coal combustion residuals in 2010, including fly ash and bottom ash generated at coal-fired electric generating units. The rule contains two alternative proposals. AEP noted, "One proposal would impose federal hazardous waste disposal and management standards on these materials and another would allow states to retain primary authority to regulate the beneficial reuse and disposal of these materials under state solid waste management standards, including minimum federal standards for disposal and management." AEP said both proposals would increase it costs, as they both impose more stringent requirements for the construction of new coal ash landfills and existing unlined surface impoundments, but the former, classifying coal combustion residuals as a hazardous waste, would imply far greater costs. The EPA is studying its options, and AEP had submitted data to the EPA for this purpose.

At the end of 2011, AEP's subsidiaries were named as a Potentially Responsible Party (PRP) under Superfund for four sites. AEP has received information requests for nine other sites from the EPA, which could lead to PRP designations. AEP said that its present "estimates do not anticipate material cleanup costs for any of our identified Superfund sites," except for a site owned by subsidiary I&M. AEP said I&M received a letter from the Michigan Department of Environmental Quality (MDEQ) in 2008 "concerning conditions at a site under state law and requesting I&M take voluntary action necessary to prevent and/or mitigate public harm." AEP said that "I&M started remediation work in accordance with a plan approved by MDEQ" and had acknowledged a remediation liability of $10 million, although it warned costs might escalate.

I&M also owns and operates the two-unit 2,191 megawatt Cook Plant, and AEP acknowledged in its 10-K that it has "a significant future financial commitment to dispose of [spent nuclear fuel] and to safely decommission and decontaminate the plant." The Cook Plant's licenses expire in 2034 for one reactor and in 2037 for the second. AEP also acknowledged that it liabilities could be "substantial" should it experience an accident at the plant.

AEP said the costs to decommission a single plant and dispose of low-level radioactive waste could be as high as $1.5 billion. To date, it had established two decommissioning trust funds (one for each plant)—mandatory funds created from a fee on ratepayers, with fund balances of $1.3 billion and $1.2 billion. AEP believed it would have sufficient funds to decommission the plants when their licenses expire.

One variable is a long-term storage solution for the plants' spent nuclear fuel, a question looming for all nuclear power plants in the United States. The U.S. government used to collect funds and had pledged ultimate responsibility for this task, but delays in selecting a site (including the cancellation of the planned Yucca Mountain site) and developing a storage solution have operators of nuclear plants looking for their own solutions. In 2011, I&M signed a settlement agreement with the federal government, which permits I&M to make annual filings to recover certain SNF storage costs incurred as a result of the government's delays in accepting spent nuclear fuel for permanent storage. Under the settlement, I&M received $14 million to recover costs and will be eligible to receive additional payment of annual claims. I&M also has a trust fund to hedge against an accident.

AEP also disclosed that its Amos Plant received a letter from the West Virginia Department of Environmental Protection, Division of Air Quality (DAQ), in 2010, "alleging that at various times in 2007 through 2009 the units at Amos Plant reported periods of excess opacity (indicator of compliance with [particulate matter] emission limits) that lasted for more than 30 consecutive minutes in a 24-hour period and that certain required notifications were not made." It resolved the issue with the state and paid a $75,000 penalty in 2011. The Amos Plant paid another $36,000 to the EPA to settle a claim based on the same incident under Superfund and the Emergency Planning and Community Right-to-Know Act.

As a major burner of fossil fuels, with 90 percent of its electricity being generated from fossil fuel sources, AEP also said it was at risk for compliance with laws and regulations covering emissions of nitrogen and sulfur oxides, mercury and particulates. AEP noted, "Compliance with these legal requirements requires us to commit significant capital toward environmental monitoring, installation of pollution control equipment, emission fees and permits at all of our facilities and could cause us to retire generating capacity prior to the end of its estimated useful life." It said these "expenditures have been significant in the past," and AEP expected that they would "continue to be significant" under present and proposed rules. It warned, "Costs of compliance with environmental regulations could adversely affect our net income and financial position, especially if emission and/or discharge limits are tightened, more extensive permitting requirements are imposed, additional substances become regulated and the number and types of assets we operate increase," especially if it is forced to retire generating assets before the end of their useful lives.

AEP said it continues "to evaluate the impact of these rules, project scope and technology available to achieve compliance." At the end of 2011, AEP had a total generating capacity of nearly 36,500 megawatts, of which 23,900 megawatts are coal-fired. "Based upon our estimates," it said, "investment to meet these proposed requirements ranges from approximately $6 billion to $7 billion between 2012 and 2020." It said these amounts include "investments to convert 1,055 megawatts of coal generation to natural gas capacity [about 4.4 percent of its coal generating capacity] and the completion of 580 megawatts of natural gas-fired generation in January 2012." Nonetheless, it said, these plans might change based on changes in state rules, technological developments, and federal implementation of proposed EPA rules.

The Clean Air Act has a comprehensive program to protect and improve the nation's air quality and control sources of air emissions, and the states implement and administer many of these programs; at times they also have their own, more stringent requirements. The federal EPA issued the Clean Air Interstate Rule (CAIR) in 2005 requiring specific reductions in SO2 and NOx emissions from power plants. Based on a court challenge to CAIR in 2008, the EPA issued the Cross-State Air Pollution Rule (CSAPR) in August 2011 to replace CAIR, but it also has been challenged in court and remains there, leaving CAIR in effect until the United States Court of Appeals for the District of Columbia issues a final ruling. AEP notes CAIR covers its facilities. The EPA also issued the final maximum achievable control technology (MACT) standards for coal and oil-fired power plants in February 2012, and the EPA issued a Clean Air Visibility Rule (CAVR), detailing how the CAA's requirement that certain facilities install best available retrofit technology (BART) to address regional haze in federal parks and other protected areas. AEP noted that these also cover its power plants.

Finally, AEP's operations also are covered by the Clean Water Act. The EPA proposed a new rule in April 2011, the company notes, "setting forth standards for existing power plants that will reduce mortality of aquatic organisms pinned against a plant's cooling water intake screen (impingement) or entrained in the cooling water [when small fish, eggs or larvae are drawn into the system]." The proposed rule covers all plants withdrawing more than two million gallons of cooling water per day and there are more stringent requirements for those tapping more than 125 million gallons per day. AEP said it is studying the requirements and had no estimates for compliance costs.

Waste management: AEP said in its integrated report that it recycled 1.2 million pounds of paper.

Employment: AEP warned in its 10-K filing, "Failure to attract and retain an appropriately qualified workforce could harm our results of operations." Furthermore, it noted, in a theme mentioned throughout the Utilities sector, "an aging workforce without appropriate replacements, mismatch of skillset or complement to future needs, or unavailability of contract resources may lead to operating challenges and increased costs," including "lack of resources, loss of knowledge and a lengthy time period associated with skill development…costs for contractors to replace employees," and "productivity…and safety costs." AEP concluded, "Failure to hire and adequately train replacement employees, including the transfer of significant internal historical knowledge and expertise to the new employees, or the future availability and cost of contract labor may adversely affect the ability to manage and operate our business."

In its annual integrated report, AEP emphasized that investing in employees, including health, safety and wellness, was a key priority, and it noted it had made significant progress in reducing injuries in recent years. It had set an interim goal in 2006—on its way to an ultimate goal of zero incidents—to achieve top quartile performance among its peer companies in the number of recordable injuries and the severity of injuries that lead to lost work days by 2011. Its 2011 recordable rate was 1.00, just short of its 0.97 target, and its severity rate was 23.07, also short of its 19.94 goal. It also reported two fatalities—one employee and one contractor—attributable to a boat capsizing. Nonetheless, it demonstrated progress from 2006, when its recordable rate was 1.66, and its severity rate was 31.77. AEP said its leading causes of injuries continue to be slips, trips, falls and being struck by objects. In 2011, given the extreme weather conditions endured across its coverage area, as well as an earthquake near its nuclear plant, it focused on responding to severe weather. All of these efforts fall under AEP's Managing Environment, Safety and Health (MESH) initiative and management system. It said it recently expanded the software tools in the system to better identify risks and track incidents.

On wellness, AEP said it was ramping up health and wellness programs for workers to combat rising medical costs "associated with coming health care reform, lost productivity, increased safety risk, and the human toll of poor health…" AEP said it believed these programs, along with its safety initiatives, were key in keeping its costs down, and it noted that while nationally companies had seen a decline in compensation costs of an average of 4 percent since 2001, AEP had seen a 6.4 percent decrease. Nonetheless, it noted, AEP is self-insured and covers approximately 80 percent of medical plan costs, and these costs grew between 7 and 13 percent between 2005 and 2009, although they had been flat since.

AEP also reported mixed challenges in the present economic environment. On the one hand, it wanted to focus on retaining employees given prevailing economic conditions, and it had slowed hiring since peaking in 2008. In addition, it reported, its turnover had been "low" in recent years. However, at the same time, its work force is aging, "with the highest percentage of employees now between ages 45 and 54." It said it anticipates that 10 percent of its work force will retire in the next five years. To ensure a pipeline of leadership and talent to replace these workers, it said it was focusing on employee career development and education efforts and partnering with local colleges and universities in communities where it operates. It also said it was working on programs to recruit veterans.

AEP also noted in its integrated report that nearly 30 percent of its employees are represented by unions. It had a "strong" relationship with its unions and worked with them on advocacy for climate change legislation. It said it successfully negotiated 12 collective bargaining agreements with unions in 2011, including its master contract with the International Brotherhood of Electrical Workers (IBEW), which had been ratified. Agreements with the Utility Workers Union of America, United Steelworkers, The International Union of Operating Engineers and United Mine Workers were set to expire in 2012.

AEP also said diversity was a priority, underscoring that "diversity is about ethnicity, gender and age as well as the differences that our employees or community members offer in terms of experiences, ideas and opinions, all of which help to make the work environment, or community, a richer and better place." It said it tracked the composition of its work force and particularly the advancement of female and minority employees. It also described its employee resource groups which support and foster its diversity initiatives throughout the organization.

Mine safety: AEP filed a mine safety exhibit as part of its requirement under Dodd-Frank for its SWEPCo subsidiary's ownership of Dolet Hills Lignite Company (DHLC) and another subsidiary, OPCo, and its ownership of Conesville Coal Preparation Company (CCPC) and its use of the Conner Run fly ash impoundment. It noted in its filing that OPCo is in the process of selling CCPC. The three facilities combined had proposed assessments for fines of $2,275 and no pending cases or fatalities.

Ethics: In its integrated report, AEP described its Principles of Business Conduct, which includes requirements on "integrity, fairness, respect and care." AEP said its employees are assured that those raising concerns about ethics, safety or compliance issues can do so without fear of retribution. It said it continued to train employees and its policies and noted the financial benefit of doing so. "If employees are unwilling to report an ethics or compliance violation for fear of retribution, our corporate culture, the financial health of the company and our reputation are put at risk."

AEP noted in its 10-K filing that the Lieutenant Governor of California filed a lawsuit in Los Angeles County California Superior Court in 2002 against AEP and other companies, "alleging violations of California law through…fraudulent reporting of false natural gas price and volume information with an intent to affect the market price of natural gas and electricity." AEP was dismissed from the case, but several similar cases also naming AEP were filed in California and in state and federal courts in several states, AEP said, making essentially the same allegations. AEP said it settled all of the pending cases in California in 2008 and a case pending in Nevada was dismissed, then appealed; it is still pending.

Board diversity: In its proxy statement AEP said that its board "considers diversity in identifying nominees…" It added, "Diversity in gender, race, age, tenure of board service, geography and background of directors, consistent with the Board's requirements for knowledge and experience, are desirable in the mix of the Board."

Pay links: Also in its proxy statement, AEP 2012 incentive plan for named executive officers included specified performance objectives on environmental, social and ethical issues, including:

- "Environmental measures—emissions; project completion milestones; regulatory, legislative and cost recovery goals; and notices of violation."
- "Safety measures—recordable case rate; severity rate; and vehicle accident rate."
- "Diversity measures—minority placement rate and utilization."
- "Employee satisfaction."

About IRRCi

The IRRC Institute is a not-for-profit organization established in 2006 and headquartered in New York City. We serve as a funder of environmental, social and corporate governance research, as well as the capital market context that impacts how investors and companies make decisions.

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