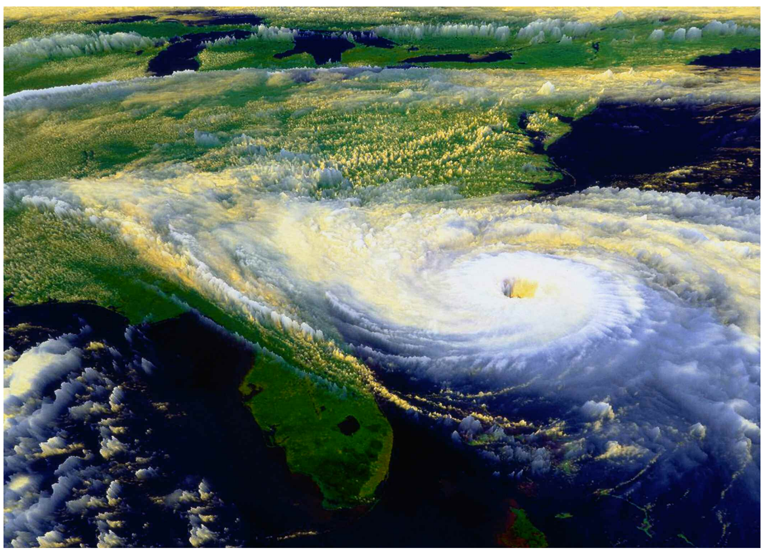
Ceres

DISCLOSING CLIMATE RISKS & OPPORTUNITIES IN SEC FILINGS

A GUIDE FOR CORPORATE EXECUTIVES, ATTORNEYS & DIRECTORS



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FEATURING INVESTOR EXPECTATIONS FOR QUALITY DISCLOSURE

Ceres is a national coalition of investors, environmental groups and other public interest organizations working with companies to address sustainability challenges such as global climate change. Ceres directs the Investor Network on Climate Risk, a group of 95 institutional investors with assets exceeding $9 trillion, by identifying the financial opportunities and risks in climate change and by tackling the policy and governance issues that impede investor progress toward more sustainable capital markets.

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All views expressed in this report represent the views of the authors.

This report does not provide legal advice on what any particular company should disclose in its SEC filings, but instead provides general recommendations on good disclosure practices. Each company's operations and business circumstances differ, and disclosure decisions and materiality judgments are fact- and context-specific. Companies should seek advice from their legal counsel and other advisors on what they should and are required to disclose.

Patricia Robinson designed and produced the final report.

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FOREWORD

As this report is being published, the costs of Australia's epic January floods are still being assessed. Beyond the billions of dollars in infrastructure damage, shipping and agriculture suffered major losses, causing economic ripples globally. Disruption of coking coal exports, for example, caused global coal prices to rise 25 percent, with further price increases threatening to shock the Asian steel industries that depend on Australia's coal.

Climate change threatens many more such extreme weather events—like this one-in-200-year flood—and more material impacts on companies' operations and future financial prospects. A new study by consulting firm Mercer, in fact, warns that climate change could increase investment portfolio risk by 10 percent over the next 20 years.

At the same time, of course, governments worldwide are moving to limit the carbon emissions that cause climate change. India became the first nation last year to levy a carbon tax on coal producers. Japan, Australia, the European Union and South Korea are pursuing similar measures, as the United States inches closer to regulating greenhouse gases under the Clean Air Act.

For years, investors managing trillions of dollars have been pressing companies to disclose material information on just these sorts of risks, as well as on the opportunities related to climate change, such as escalating demand for clean technologies. In February 2010, the U.S. Securities and Exchange Commission responded, issuing guidance for companies on climate change-related information they should be disclosing to investors.

Despite the SEC guidance, this report's review of companies' most recent 10-K filings shows that improvements in climate risk disclosure have been incremental at best.

And while voluntary reporting on climate risks is helpful, it is not sufficient. Investors need information that is standardized and regulated, and they need to be able to find that information in one place.

This report, *Disclosing Climate Risks & Opportunities in SEC Filings: A Guide for Corporate Executives, Attorneys & Directors*, aims to help companies review and improve their disclosure. It provides clear guidance for firms on how to assess and disclose climate risks and opportunities, as well as concrete examples of what investors view as quality disclosure.

At its heart, good disclosure is about specificity and quantification. It's about providing investors the concrete information they need to be able to evaluate a company's risks or to compare that company to its peers.

Chiquita Brands International, for example, describes in its most recent 10-K the physical climate risks, such as drought, temperature extremes, floods and hurricanes, which could reduce its crop size and quality; and it quantifies those impacts, from the costs of shipping disruptions, to the costs of rehabilitating flooded farms and procuring replacement fruit.

Electric power company AES Corp. disclosed estimated costs of its compliance with the U.S. Northeast's regional cap and trade program, as well as the model and methodology used to derive those estimates, in its 10-K.

Foreword

Quality disclosure should also include information on climate-related opportunities, such as Siemens' disclosure in its 2009 20-F that it considers climate change to be a "global megatrend" that will impact all humanity, and that it has aligned its strategy and business activities to minimize carbon dioxide emissions.

To attain this level of disclosure, management must systematically analyze the company's potential risks and opportunities related to climate change, and then use sound judgment to decide which risks and opportunities are material and therefore require disclosure. Creating sustainable governance systems and setting up a climate management team to oversee procedures for monitoring greenhouse gas emissions and analyzing risks will make this challenge easier.

This report lays out the practical steps for such a comprehensive approach.

Finally, companies should bear in mind that climate risk is but one of many environmental, social and governance ("ESG") risks that have financial impacts and that the SEC is broadening its focus beyond climate disclosure to encompass mining safety, conflict minerals and other sustainability challenges. Putting strong systems in place for analyzing and disclosing climate-related risks will help companies report on these broader sustainability risks.

Companies that improve their transparency and disclosure with investors on climate-related risks and opportunities will be better positioned to navigate and compete in a global business environment increasingly affected by climate change and other sustainability risks. Ultimately, that should mean stronger shareholder value.

Mindy S. Lubber
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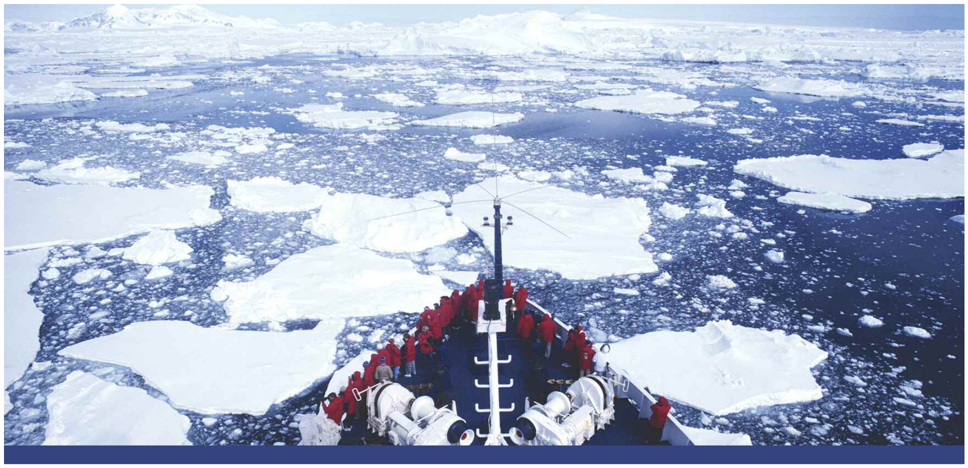

EXECUTIVE SUMMARY

Adjusting to a world profoundly shaped by climate change is one of the great challenges of the 21st Century. For companies, understanding and responding to the risks and opportunities from climate change, whether from carbon-reducing regulations or physical impacts, has become a business imperative. For investors, identifying firms that are ahead of the curve—and those that are behind—in responding to this growing business trend is equally vital. That is why growing numbers of investors in recent years have demanded that companies disclose material climate-related risks and opportunities and have pressed the Securities and Exchange Commission and other regulators to ensure that these disclosures satisfy securities law requirements and the needs of the public.

This Ceres report, *Disclosing Climate Risks & Opportunities in SEC Filings: A Guide for Corporate Executives, Attorneys & Directors*, discusses the significance of major developments in climate disclosure and provides specific guidance to help companies improve their public filings. It focuses on three primary areas: (1) an overview of recent developments in climate disclosure, particularly the SEC's interpretive guidance on climate risk disclosure issued in 2010; (2) investor expectations concerning key categories of climate disclosure, including specific company examples from recent securities filings; and (3) an 11-point checklist to help companies improve the quality of their disclosure and position themselves to respond more effectively.

Climate Risk Disclosure and SEC Guidance

The SEC's *Commission Guidance Regarding Disclosure Relating to Climate Change*, released in February 2010, outlines public companies' obligations under securities laws and SEC regulations to disclose to investors material information concerning climate-related risks and opportunities. The Guidance follows longstanding efforts by major investors, state law enforcement officials and others to focus companies' attention on the quality of their climate-related disclosure, and its release coincides with important new regulatory developments, including EPA's adoption of regulations for greenhouse gas ("GHG") emissions from motor vehicles and large sources such as power plants and factories under the Clean Air Act. The new Guidance serves as a reminder that climate risk disclosure is not only a matter of responsiveness to investors' demands but of compliance with basic legal obligations.

The SEC Guidance recognizes that climate change has become an important feature of the physical, economic, regulatory and physical environments in which companies operate. Carbon-reducing regulations may impose direct compliance costs or increase the cost of inputs. Changing weather patterns may affect a firm's operating costs, threaten its water supplies, increase risks of catastrophic weather-related losses, or alter consumer demand for its products or services. Public awareness of the climate change issue can create reputational risks for firms with high greenhouse gas emissions.

At the same time, climate change can open significant new opportunities for businesses that offer low-carbon products, can profit from emissions trading markets, or provide services relating to adaptation to climate change. Climate change can portend both risk and opportunity for a single company: laws regulating emissions may present risks for an energy firm that relies on fossil fuels, but also opportunities in its wind power division.

Assessments of corporate disclosure practices on climate change show significant improvements in recent years, particularly in voluntary disclosures. However, overall disclosure continues to be highly inconsistent and often inadequate, particularly in mandatory filings, and frequently fails to meet the needs of investors.

Release of the SEC Guidance presents an opportunity for companies to review and improve their climate disclosure practices. Businesses should take advantage of the large and growing body of resources available to assist in meeting their disclosure obligations. In addition to the SEC Guidance, and authoritative general statements of investor expectations such as the Global Framework for Climate Risk Disclosure, these resources now include sector-specific guidance such as Global Climate Disclosure Frameworks produced by Ceres and investor groups for the oil and gas, automobile and electric utility sectors, and the National Association of Insurance Commissioners' Insurer Climate Risk Disclosure Survey. Firms should also be aware, as the SEC Guidance notes, that disclosures now being made voluntarily, such as in corporate sustainability reports or Carbon Disclosure Project survey responses, may also need to be made as part of mandatory SEC filings.

Finally, it should be noted that climate risk disclosure is not the only significant environmental, social or governance ("ESG") issue that is inadequately disclosed; others of note include risks associated with water scarcity, mining safety and deepwater drilling. Climate change, however, is a topic investors have been particularly focused on in recent years, and for which there are now ample resources to help firms to produce quality disclosure.

Climate Disclosure Best Practices in SEC Filings

A review of SEC filings for the 2009 fiscal year, the most recent year for which 10-Ks are available, reveals an array of climate change reporting examples reflecting differing levels of comprehensiveness, detail and clarity, and too many companies that fail to address the issues at all. Our report includes examples of reporting that reflect good, fair and poor disclosure. This report does not identify examples of exemplary disclosure because such examples are wanting. The overall level of disclosure, while improving, remains well below where it should be. For example, a recent report by ISS Corporate Services analyzed disclosures by the 100 largest U.S. public companies, finding that just 51 made any reference to climate change in their 2009 10-K filings, only 22 discussed climate change opportunities, and only 24 addressed physical risks to their assets from climate change.

Our report examines disclosure of the following key categories of climate risks and opportunities:

Regulatory Risk and Opportunity: Regulatory risk and opportunity refers to the consequences of proposed or enacted domestic regulations on a company's operations and financial prospects, such as changes in costs or profits from the sale of emissions credits, costs to comply with regulatory limits on emissions, or impacts from regulation-driven changes in demand for goods and service. Disclosure of regulatory risks and opportunities involves identifying the relevant proposed or enacted regulatory provisions, and explaining their financial impact on the company when the impact is significant enough to warrant disclosure. Adequate disclosure should include specific details and quantification of impacts of regulation when possible. Disclosure of the impact of international accords addressing climate change follows the same principles.

Indirect Consequences or Business Trends: Legal, economic, or technological developments associated with climate change may create new opportunities or risks by, for example, decreasing demand for goods or energy sources associated with high greenhouse gas emissions or increasing demand for "cleaner" products or energy sources, or by increasing competition to develop new products. The SEC Guidance explains that such business trends and risk factors must be disclosed where material. Good quality disclosure of business trends requires a thoughtful and candid discussion of management's understanding of how climate change affects its business.

Physical Impacts: Significant physical effects of climate change, such as increased incidence of severe weather, rising sea levels, reduced arability of farmland and reduced water availability and quality, may materially affect a company's operations, competitiveness and results. Quality disclosure of physical impacts provides detailed information about the nature of climate change risks and opportunities, and quantifies them where possible.

Greenhouse Gas Emissions: Obtaining data on GHG emissions—including both current emissions and trends over time—is usually necessary for a company's own efforts to assess its climate change-related risks and opportunities, and for investors assessing a company's financial condition and prospects. Investors worldwide have expressed a clear desire for standardized emissions reporting by companies. Investors want not only a snapshot of current emissions, but a sense of the direction of the company's carbon management. Accordingly, high quality emissions disclosure will set forth the methodology used to analyze emissions; current direct and indirect emissions; actual historical direct and indirect emissions and estimated future direct and indirect emissions from their operations, purchased electricity and products/services.

Strategic Analysis of Climate Risk and Emissions Management: The Global Framework for Climate Risk Disclosure calls upon companies to provide analysis that identifies their future challenges and opportunities associated with climate change: specifically, management's strategic analysis of climate risk, including a clear and straightforward statement about implications for competitiveness. Where relevant, the company should address access to resources, the timeframe that applies to the risk and the firm's plan for meeting any strategic challenges posed by climate risk. The Global Framework urges companies to disclose a strategic analysis that includes: a statement of the company's current position on climate change; an explanation of all significant actions the company is taking to minimize its climate risk and identify opportunities (emissions management); and corporate governance actions relating to climate change, such as the establishment of any management or board committees to address climate risk.

An 11-Point Checklist for Identifying, Disclosing and Addressing Climate Risks and Opportunities

1. **Integrate consideration of climate risk and opportunity throughout the firm.** Climate change should be part of a company's overall sustainability strategy, and consideration of climate risk should be integrated throughout all relevant components of the firm. Personnel responsible for preparing sustainability strategy and voluntary climate disclosures should be in close communication with those responsible for assessing financial risk and preparing and approving mandatory securities disclosures.

2. **Create a climate management team.** Creating a team of senior managers helps ensure that systematic, high-level consideration of climate change issues is integrated throughout a company's operations.

3. **Create a board oversight committee.** Companies should designate a committee of the board to assume specific responsibility for oversight of climate change, which, in addition to posing operational and managerial issues, implicates important matters of corporate strategy, reputation and capital investment that are appropriate for board consideration.

4. **Develop internal controls and procedures for gathering of GHG emissions data and other climate change-related information.** Reliable information on firm emissions, physical risks, enacted and proposed regulations, and climate-related initiatives is essential for management analysis, decision-making and disclosure to investors.

5. **Measure, benchmark, and inventory current GHG emissions from operations, electricity use and products.** Calculating emissions is an important first step in evaluating climate risk. A firm cannot, for example, determine the potential impact of regulations without knowing what its emissions are.

6. **Calculate past and projected emissions.** Analysis of past and projected future GHG emissions is necessary for a company to understand its emissions trends and assess future regulatory or competitiveness risks.

7. **Create specific emissions reduction targets and regularly report on progress.** For firms that adopt goals of reducing GHG emissions, specific, verifiable targets and deadlines provide invaluable means of focusing employees' energies on achieving greater energy efficiency and providing concrete information for investors.

8. **Identify risks and opportunities; then assess materiality.** The heart of effective disclosure is systematic analysis of potential risks and opportunities relating to climate change, and management's exercise of judgment on which risks and opportunities are material and therefore require disclosure. Although climate-related risks can be classified in different ways, it is useful to consider them in terms of several broad categories:

   - **Physical risks.** Assess physical risks relating to climate change—i.e., how changes in climate affect the business and its operations, including its supply chain.
   - **Financing and underwriting risks and opportunities.** Firms that insure, reinsure or indemnify properties or operations may be at a higher risk of harm due to climate change and must assess how climate change is affecting their operations and prospects.
   - **Regulatory risks and opportunities.** Identify regulatory measures that affect the firm's financial position and operations, as well as proposed measures reasonably likely to be enacted, and analyze how they would affect the company's financial condition and results of operations, with attention to opportunities as well as risks.

- **Litigation risks.** Companies must disclose litigation relating to climate change that is material or that satisfies thresholds set out in SEC regulations.
- **Indirect risks and opportunities.** Climate change can materially affect a company's financial position indirectly, such as increasing the costs of energy or by changing patterns of consumer demand.
- **Reputational risks.** Public perceptions about climate change and companies' responses can importantly affect companies' reputations and consumer demand for particular products.
- **Emissions.** As previously noted, all companies need to determine their GHG emissions in order to assess their climate risk. GHG emissions data is important to investors because it provides a concrete measure of a company's exposure and allows for valid comparisons among firms. Companies should err on the side of disclosing emissions data in their SEC filings.

9. **Quantify emissions, risks and opportunities whenever possible.** Specific numbers, when reasonably attainable, are preferred over general statements.
10. **Be specific: Provide a particularized discussion of climate risks and opportunities with respect to specific company assets and operations.** Investors interested in how companies will fare in a transitioning to a carbon-constrained world want particularized disclosure of both risks and opportunities, with reference to specific corporate operations, not generic "boilerplate" statements.
11. **Consider investors' demands when assessing materiality.** The materiality standard that determines what information public companies must disclose ultimately turns on the needs of the reasonable investor. In assessing materiality, firms should pay attention to what information investors are, in fact, seeking.

CLIMATE CHANGE DISCLOSURE AND THE NEW SEC GUIDANCE

For years, investors have been pressing corporations to disclose material information about the risks and opportunities posed by a range of environmental, social and governance ("ESG") issues. Material or potentially material ESG issues—although too numerous to list here—can be broken down into broad categories: environmental, human rights, labor practices, societal impact and product responsibility.[1] In the last 10 years, institutional investors have paid particularly close attention to risks and opportunities related to climate change, whether from physical impacts, new emissions regulations, competitive market trends, litigation or reputational exposure.

In 2010, the Securities and Exchange Commission, responding to a 2007 petition from twenty institutional investors, state officials and other groups, issued formal "Commission Guidance Regarding Disclosure Relating to Climate Change" (or "Guidance").[2] The Guidance, effective February 8, 2010, discusses climate change and greenhouse gas ("GHG") regulation in light of long-settled legal principles requiring disclosure of information necessary for the investing public to make informed investment decisions, and emphasizes public companies' responsibility under settled law to disclose material risks and opportunities relating to climate change.

The SEC Guidance is a watershed in longstanding efforts to improve the quality of corporate disclosure on climate change, and to encourage companies to discuss climate strategies transparently with investors. The Guidance emphasizes that disclosure of material climate change issues is a matter of pre-existing legal obligation, as it has long been a requirement that companies disclose material risks to investors.[3] Combined with important new developments in federal and state greenhouse gas regulation, the Guidance signals the need for companies to take a fresh look at their climate change strategies and disclosure practices.

The SEC Guidance signals the need for companies to take a fresh look at their climate change strategies and disclosure practices.

1 For more information, see Global Reporting Initiative's "Sustainability Reporting Guidelines Reference Sheet," www.globalreporting.org/ReportingFramework/G3Guidelines/#NumberSix.

2 75 Fed. Reg. 6290 (Feb. 8, 2010) ("SEC Guidance"), www.sec.gov/rules/interp/2010/33-9106fr.pdf.

3 See id. at 6295 (discussing "a number of Commission rules and regulations that may be the source of a disclosure obligation for registrants under the federal securities laws"). As business commentators have noted, "the release of the 29-page interpretive guidance does signal that SEC staff will pay more attention to climate-change-related data in future reviews." Sarah Johnson & Marie Leone, "Hot Topic: Climate Change Disclosure," CFO.com (Feb. 19, 2010), www.cfo.com/article.cfm/14475707.

The Guidance—while important—is not the last word on climate change disclosure in financial filings. If history is any guide, the SEC will refine its interpretive guidance over a period of years to better define what it expects of registrants. In addition, in this quickly evolving field, investors, standard-setting organizations, accountants and corporations will continue to play an important role in defining the future of climate disclosure.

For these reasons, this report does not focus *solely* on the SEC Guidance, but examines investor statements on the reporting they require, particularly the Global Framework for Climate Risk Disclosure.[4] Corporations will improve the quality of their assessments of material risks, and their SEC reporting, by examining investor statements and other standards for climate risk disclosure in addition to the SEC Guidance. Furthermore, ensuring that disclosure practices comply with securities laws and meet investors' needs can better position companies to prosper in a business environment increasingly affected by climate change and the regulatory and market responses to it.

Finally, companies will improve the quality of their reporting by ensuring that voluntary and mandatory disclosures are not inconsistent. Of course, this does not mean that voluntary and mandatory disclosures will be identical in content or scope: voluntary disclosures are often more extensive, as they include information that does not necessarily meet SEC materiality standards. However, mandatory disclosures should be factually and conceptually consistent regarding the impact of climate-related risks and opportunities and the company's business strategy for addressing these issues. For example, if a company's voluntary disclosures suggest significant impacts from climate change, or that it expects to reap large financial benefits from steps taken in response to regulatory changes or market shifts, mandatory disclosures should not omit discussion of these issues.

Climate Change Science and Policy

Recent authoritative reviews of climate change science have confirmed that the burning of fossil fuels and other human activities that result in emissions of carbon dioxide, methane and other greenhouse gases are changing the Earth's climate and raising average global temperatures.[5] According to the National Oceanic and Atmospheric Administration, 2010 was the warmest year of the global surface temperature record beginning in 1880, and the 34th consecutive year with global temperatures above the 20th century average. More than a dozen countries set all-time heat records in 2010.

Climate change has broad implications for society beyond temperature changes. Its consequences include more frequent and intense heat waves and droughts, more powerful storms, limited water availability in some regions, new pressures on ecosystems and habitats, a range of human health effects and rising sea levels and ocean acidification, among others.[6]

4 The Global Framework (2006) was created by a global partnership of 14 institutional investors and other organizations to provide specific guidance to companies regarding the information they provide to investors on the financial risks posed by climate change, www.ceres.org/Document.Doc?id=73.

5 See, e.g., EPA, Final Rule, Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,495 (Dec. 15, 2009) ("EPA Endangerment Finding"); National Academy of Sciences, "Understanding and Responding to Climate Change: 2008 Edition" (2008), www.nationalacademies.org/morenews/20080519.html; Intergovernmental Panel on Climate Change ("IPCC"), "Fourth Assessment Report: Climate Change" (Cambridge University Press, 2007), www.ipcc.ch/.

6 See, e.g., IPCC, "Climate Change 2007: Impacts, Adaptation and Vulnerability," Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Summary for Policymakers at 8-12, 18 (Cambridge University Press, 2007); EPA Endangerment Finding, 74 Fed. Reg. 66,524-26.

Responding to the serious risks that climate change poses in the near- and long-term, and to public calls for remedial action, governments across the world are enacting policies to address emissions of the greenhouse gases that drive climate change. In the United States, major regulatory developments have included the establishment of cap-and-trade systems and emissions reduction targets at the regional and state levels,[7] and the Environmental Protection Agency's promulgation of regulations under the Clean Air Act limiting greenhouse gas emissions from cars and large stationary sources such as fossil fuel-burning power plants.[8]

Risks and Opportunities for Businesses

Climate change has become an issue of immediate importance for many businesses—one that can affect a company's current operations and future financial prospects. Government regulation of GHG emissions may impose direct compliance costs or increase the cost of inputs, or may create competitive advantages for firms that manufacture products with lower emissions than competitors' products or that conserve energy. Changing weather patterns may affect a firm's operating costs, threaten its water supplies, increase risks of catastrophic weather-related losses, or alter consumer demand for its products or services. Public awareness of this issue can also create reputational risks for firms with high GHG emissions; even the appearance of insensitivity to environmental concerns in general may affect a company's reputation and therefore its market value.

Investors want to understand which companies are most exposed to the risks associated with climate change, and which are best positioned to benefit from the opportunities.

While climate change carries risks for many companies, it also offers significant new opportunities for firms offering low-carbon energy or products, those that can profit from emissions trading markets, and companies that provide services relating to adaptation to climate change. And climate change may present both risks and opportunities to a single firm: the enactment of laws regulating emissions may create financial risks for an energy firm that relies on fossil fuels, but may create important opportunities for that same company's wind power division.

In short, climate change is now an important feature of the physical, economic and regulatory environments in which companies operate. Therefore, it has become a focus of interest of hundreds of shareowners worldwide, including many of the world's largest public pension funds, asset management firms, private equity investors and others.[9] Investors want to understand which companies are most exposed to the risks associated with climate change, and which are best positioned to benefit from the opportunities. To protect their portfolios over the medium and long term, investors want to know which firms are addressing the multiple transformations climate change brings, and which are behind in responding to physical changes and various climate-related regulations. Increasing numbers of investors have demanded that corporations disclose information concerning climate risks and opportunities, and explain how their firms plan to respond to new regulatory constraints on carbon emissions and physical climate impacts.

7 See, e.g., Pew Center for Global Climate Change, State Legislation from Around the Country, www.pewclimate.org/what_s_being_done/in_the_states/state_legislation.cfm.

8 Responding to the Supreme Court's decision holding that GHGs are pollutants under the Clean Air Act, *Massachusetts v. EPA*, 549 U.S. 497 (2007), and to its own conclusion that GHGs endanger public health and the environment, EPA Endangerment Finding, 74 Fed. Reg. 66,4964-95, EPA has taken steps to regulate GHG emissions from motor vehicles, 75 Fed. Reg. 25,324 (May 7, 2010), and large stationary sources, 75 Fed. Reg. 17,004 (Apr. 2, 2010); 75 Fed. Reg. 31,514 (June 3, 2010). Comprehensive federal legislation targeting GHGs went further than ever before in the 111th Congress; the American Clean Energy and Security Act of 2009, H.R. 2454, passed the House of Representatives on June 26, 2010, and companion legislation was reported out of the Senate Environment and Public Works Committee, Clean Energy Jobs and American Power Act, S. 1733, but did not come up for a vote before the full Senate. On December 23, 2010, EPA announced that it had entered into settlements that require EPA to promulgate regulations addressing GHG emissions from electric generating units and refineries. See EPA, Fact Sheet, "Settlement Agreements to Address Greenhouse Gas Emissions from Electric Generating Units and Refineries," www.epa.gov/airquality/pdfs/settlementfactsheets.pdf; see also EPA, Proposed Settlement Agreement, Clean Air Act Citizen Suit, 75 Fed. Reg. 82392 (Dec. 30, 2010).

9 For example, 268 investors from North America, Europe, Asia, Australia, Latin America and Africa, with collective assets totaling more than $15 trillion, released a statement in November 2010 that called for a robust new domestic policy framework, international agreement, and international finance tools related to climate change. The statement specifically noted that government should adopt regulations requiring "corporate disclosure of material climate-related risks." The statement was organized by the following groups—Ceres and the Investor Network on Climate Risk ("INCR"), the Institutional Investors Group on Climate Change ("IIGCC"), the Investor Group on Climate Change Australia/New Zealand ("IGCC"), the United Nations Environment Programme Finance Initiative ("UNEP FI"), and the Principles for Responsible Investment ("PRI")—and is available at www.ceres.org/Page.aspx?pid=1293.

Determining Materiality

The American securities laws are based upon the principle that sound investments, efficient markets, and a stable national economy depend upon public disclosure of significant information on firms' financial condition.[10] In general, whether information concerning financial risks and opportunities is subject to disclosure obligations turns on whether the information is determined to be "material."[11] The Supreme Court has explained that "[a] fact is material if there is a substantial likelihood that the disclosure of the omitted fact would have been viewed by a reasonable investor as having significantly altered the 'total mix' of information made available," and that determining whether information is material requires "delicate assessments of the inference that a 'reasonable investor' would draw from a given set of facts, and the significance of those inferences to him."[12] The Court has instructed that doubts about whether information is material should be "resolved in favor of those the statute is designed to protect,"[13] and has emphasized that "[d]isclosure, and not paternalistic withholding of accurate information, is the policy chosen and expressed by Congress."[14]

Publicly traded companies should determine materiality by engaging in a systematic analysis of climate change's impacts—both positive and negative—across the enterprise.

The materiality standard is "inherently fact-specific,"[15] and cannot be reduced to a simple formula. It necessarily depends upon a careful review of a firm's particular circumstances. For many companies, information concerning the financial risks and opportunities associated with climate change meets the standard of materiality, and therefore requires disclosure; for other companies, such information may not be material. But well informed and careful attention to climate risks and opportunities is important for *all* companies.

Determining *whether* information is material is a critical responsibility for management, and one that cannot be responsibly performed without a careful review of all relevant information. The SEC has explained that, "[i]n identifying known material trends and uncertainties, companies should consider the substantial amount of financial and non-financial information available to them, and whether or not the available information itself is required to be disclosed."[16] As the Financial Accounting Standards Board has put it, "materiality judgments can properly be made only by those who have all the facts."[17]

In short, publicly traded companies should determine materiality by engaging in a systematic analysis of climate change's impacts—both positive and negative—across the enterprise. The SEC Guidance addresses the issue of undertaking a systematic analysis. Together with Exchange Act Rules 13a-15 and 15d-15, the Guidance requires registrants to have sufficient information on their "GHG emissions and other operational matters"

10 See, e.g., *Basic Inc. v. Levinson*, 485 U.S. 224, 230 (1988) ("Underlying the adoption of extensive disclosure requirements was a legislative philosophy: 'There cannot be honest markets without honest publicity. Manipulation and dishonest practices of the market place thrive upon mystery and secrecy.'") (quoting H.R. Rep. No. 73-1383, 2d Sess. 11 (1934)); *Santa Fe Industries, Inc. v. Green*, 430 U.S. 462, 477-78 (1977); *Affiliated Ute Citizens of Utah v. United States*, 406 U.S. 128, 151 (1972); *SEC v. Capital Gains Research Bureau*, Inc., 375 U.S. 180, 186-87 (1963).

11 See, e.g., SEC Staff Accounting Bulletin No. 99, 64 Fed. Reg. 45,150 (Aug. 12, 1999); SEC Guidance, 75 Fed. Reg. at 6292-93.

12 *TSC Industries, Inc. v. Northway, Inc.*, 426 U.S. 438, 450 (1976).

13 Id. at 448; see SEC Guidance, 75 Fed. Reg. at 6293 (quoting this language).

14 *Basic, Inc.*, 485 U.S. at 234.

15 Id. at 236.

16 See SEC, Interpretation: Commission Guidance Regarding Management's Discussion and Analysis of Financial Condition and Results of Operations, Securities Act Release No. 8350, Exchange Act Release No. 48,960, 68 Fed. Reg. 75,056, 75,061-62 (Dec. 29, 2003); see also SEC Guidance, 75 Fed. Reg. at 6295 n.62 ("As we have stated before, a company's disclosure controls and procedures should not be limited to disclosure specifically required, but should also ensure timely collection and evaluation of 'information potentially subject to [required] disclosure,' 'information that is relevant to an assessment of the need to disclose developments and risks that pertain to the [company's] businesses,' and 'information that must be evaluated in the context of the disclosure requirement of Exchange Act Rule 12b–20.'" (quoting Release No. 33–8124 (Aug. 28, 2002) [67 FR 57276])).

17 FASB, Statement of Financial Accounting Concepts No. 2: Qualitative Characteristics of Accounting Information 45 (1980), www.fasb.org/st/.

to determine materiality, and to make certifications regarding “the maintenance and effectiveness of disclosure controls and procedures” related to climate change.[18] In addition, companies should find it beneficial to undertake this analysis not only to improve their required disclosures, but to engage employees throughout the enterprise in creating strategies to reduce energy use and address opportunities, and to improve investor and stakeholder relations.

Which Companies Should Disclose Climate Risks and Opportunities?

The SEC Guidance applies to all publicly traded companies required to file financial reports with the SEC. Therefore, corporations of all sizes in all industries need to assess their climate risks and opportunities and disclose any material issues in their filings.[19] But this does not necessarily mean that every company will find material climate issues to disclose. As discussed above, a company can only answer this question by undertaking a systematic materiality analysis. Whether, after having performed this careful review, a particular company must disclose information concerning climate risks and opportunities, and the nature and extent of such disclosure, will depend upon the particular facts and circumstances of that company, and management's judgments concerning the materiality of the information assembled during the review. Here we discuss how both large and small companies may face material issues, as well as a range of sectors that have paid special attention to climate change issues.

Investors who petitioned the SEC for guidance have focused their corporate engagements on large companies—mainly high emitters and insurers—while also noting that companies in virtually every industry face risks and opportunities related to climate change and can find business opportunities and reduce their risks by developing a comprehensive climate change strategy. As part of their focus on high-emitting companies and insurers, investors and other organizations have created disclosure frameworks that supplement the SEC Guidance by providing useful reporting advice specific to the following industries:

- **Oil & Gas:** *Global Climate Disclosure Framework for Oil and Gas Companies*, Ceres, Institutional Investors Group on Climate Change (IIGCC), Investor Group on Climate Change Australia/New Zealand (IGCC) (March 2010)
- **Autos:** *Global Climate Disclosure Framework for Auto Companies*, Ceres, IIGCC and IGCC (September 2009)
- **Electric Power:** *Global Climate Disclosure Framework for Electric Utility Companies*, Ceres, IIGCC, IGCC (January 2008)
- **Insurance:** *Insurer Climate Risk Disclosure Survey*, National Association of Insurance Commissioners (March 2010). Company responses to the survey are publicly available on the California and Pennsylvania insurance department websites, and by request from the State of New Jersey.[20]

Companies in virtually every industry… can find business opportunities and reduce their risks by developing a comprehensive climate change strategy.

18 SEC Guidance, 75 Fed. Reg. at 6295, n.62 (“In identifying, discussing and analyzing known material trends and uncertainties, registrants are expected to consider all relevant information even if that information is not required to be disclosed, and, as with any other disclosure judgments, they should consider whether they have sufficient disclosure controls and procedures to process this information.”); id. at n.71 (“Management should ensure that it has sufficient information regarding the registrant’s greenhouse gas emissions and other operational matters to evaluate the likelihood of a material effect arising from the subject legislation or regulation.”); see also Jeffrey A. Smith et. al, “The SEC Interpretive Release on Climate Change Disclosure,” 43 Review of Securities & Commodities Regulation 95, 99 (2010) (“Most notably, the Release reaffirmed that disclosure control procedures—including, where appropriate, correct accounting for GHG emissions—will be necessary in order to substantiate disclosure of matters such as the potential effects of GHG emission regulations.”); Scott Deatherage, “The SEC Enters the Fray on Climate Risk Disclosure,” 25 Natural Resources & Environment 35, 38-39 (2011).

19 The SEC Guidance applies to both domestic and foreign corporations that file with the SEC. The Guidance discusses applicable provisions of Form 20-F and states that “most of the disclosure requirements applicable to domestic issuers under Regulation S-K that are most likely to require disclosure related to climate change have parallels under Form 20-F, although some of the requirements are not as prescriptive as the provisions applicable to domestic issuers.”

20 www.insurance.ca.gov/0250-insurers/0300-insurers/0100-applications/financial-filing-notices-forms/annualnotices/climatlist.cfm; www.portal.state.pa.us/portal/server.pt/community/industry_activity/9276/climate_risk_survey/717493.

Investors have also examined climate risks and opportunities in other major sectors and have successfully encouraged some companies to improve their voluntary climate change disclosure. For example, a number of large-cap companies in the ***consumer discretionary, consumer staples, financials, health care, industrials, information technology, material*** and ***telecommunications*** sectors have developed or begun to develop climate change strategies, and some produce good voluntary disclosure about their risks and opportunities. Specifically, forty-four S&P 500 companies produced relatively comprehensive voluntary disclosures in 2010, according to the Carbon Disclosure Project ("CDP").[21] CDP noted that the disclosure scores received by these companies indicated one or more of the following:

- Strong understanding and management of company-specific exposure to climate-related risks and opportunities;
- Strategic focus and commitment to understanding the business issues related to climate change, emanating from the top of the organization;
- Ability to measure and manage the company's carbon footprint; and
- Regular and relevant disclosure to key corporate stakeholders.

Companies in these sectors should make a practice of reviewing their voluntary climate disclosures for material risks and opportunities that must be disclosed in their SEC filings. In its Guidance, the SEC emphasized that information reported voluntarily through the Global Reporting Initiative, CDP and the Climate Registry might also require disclosure in SEC filings:

> These and other reporting mechanisms 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.[22]

Finally, ***small companies*** tend to have much lower voluntary and mandatory climate change reporting rates than larger companies. One study found that only 39 of 364 Russell 2000 Index companies provided voluntary or SEC climate disclosure in 2009.[23] Another study examining 10-K climate disclosure found significant differences based on company size: "S&P 500 companies were most likely (as a percentage of companies in the same market capitalization category) to provide disclosure (28.9%), followed by S&P MidCap companies (16.8%), and then S&P SmallCap companies (7.4%)."[24] Smaller companies also tend to be more vulnerable to some climate risks, like physical risks, because of a limited ability to spread those risks across their enterprise. This suggests that smaller companies should look closely at improving their SEC disclosure related to climate change.

21 The Carbon Disclosure Project ("CDP") is a non-profit organization that annually surveys over 3,000 organizations worldwide, on behalf of 500+ institutional investors, regarding how they measure and disclose their greenhouse gas emissions and climate change strategies. See www.cdproject.net/en-US/Results/Pages/CDP-2010-disclosure-scores.aspx.

22 SEC Guidance, 75 Fed. Reg. at 6292.

23 See Helen Mou, "Pax World Management & Clean Air-Cool Planet, Risk and Opportunity in a Low-carbon Business Climate: Small & Mid-Caps & Climate Change" (examining the disclosure of climate-related risks and opportunities by companies representing the top 50 percent of market capitalization among the Russell 2000 Index), www.paxworld.com/newsmedia/2011/01/12/new-report-says-small-and-midcap-companies-vulnerable-on-climate-risk/.

24 Jane Whitt Sellers et. al, "Climate Change Disclosure: Creeping up the Learning Curve – Will Disclosure Catch up with Developments?" (McGuireWoods, 2009).

Disclosure of Material ESG Issues in Addition to Climate Change

Companies preparing material risk disclosure for SEC filings should keep in mind that climate risk is one of numerous material environmental, social and governance ("ESG") risks that tend to be poorly disclosed in securities filings. Companies should improve their disclosure of these material risks in order to comply with existing SEC regulations. Companies should also note that investors are increasingly examining a range of ESG issues, so improving disclosure provides other benefits, such as higher capabilities to address significant risks and opportunities and improved relations with investors. The SEC's Guidance can serve as a useful model for disclosing material items for many other ESG issues which may pose regulatory, physical and indirect risks and opportunities to companies.

In a 2009 letter to SEC Chairman Mary Schapiro, a group of 41 investors representing $1.4 trillion in assets under management asked the commission to both: (1) Enforce existing disclosure requirements for material environmental, social or governance risks such as climate change, which are underreported; and (2) Require disclosure of material environmental, social, and governance risks, based on the Global Reporting Initiative as a framework for a mandatory ESG disclosure system. The investors wrote:

> Many of us have worked to improve corporate reporting on environmental, social and governance (ESG) factors, because they pose material risks that affect investors but are generally not disclosed. Examples include environmental risks related to climate change, water scarcity, toxic chemicals, and natural resource conservation; social risk factors such as labor practices, working conditions, slave labor, and human rights; and governance issues such as board accountability and executive compensation.[25]

Climate risk is one of numerous material environmental, social and governance ("ESG") risks that tend to be poorly disclosed in securities filings.

While investors are working on each of these issues, many have focused in the last year on deepwater oil drilling, water scarcity and coal mining safety issues, partly driven by important developments in these areas.[26] The April 2010 Deepwater Horizon oil well blowout in the Gulf of Mexico highlighted the safety, environmental and financial risks of deepwater oil and gas drilling, which represents an increasingly large percentage of offshore oil and gas exploration and extraction. As of November 2, 2010, BP reported charges of $39.9 billion related to the blowout and spill.[27] Investors concerned with inadequate risk management practices highlighted by the spill have written to over two dozen companies involved in offshore drilling, asking for information on their safety, risk management, environmental management and disclosure practices.[28]

25 INCR, Letter to SEC Chairman Mary Schapiro (June 12, 2009); see Ceres News Release, "Investors With $1.4 Trillion in Assets Call on the SEC to Improve Disclosure of Climate Change and Other Risks," www.ceres.org/Page.aspx?pid=1106; see also Social Investment Forum, "More than 50 Investor Groups, Social Investment Forum Urge SEC to Require Environmental, Social & Governance (ESG) Disclosure" (July 21, 2009), www.socialinvest.org/news/releases/pressrelease.cfm?id=143.

26 Ceres & Pacific Institute, "Water Scarcity & Climate Change: Growing Risks for Business & Investors" (2009), www.ceres.org/Document.Doc?id=406; and see infra, page 15 (discussing mining disclosure requirements of Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. 111-203, § 1503(a) (July 21, 2010)).

27 BP, News Release, "BP Returns to Profit in Third Quarter with Strong Operating Performance" (Nov. 2, 2010), www.bp.com/genericarticle.do?categoryId=2012968&contentId=7065828.

28 In August 2010, a group of 58 global investors with assets under management totaling more than $2.5 trillion sent letters to CEOs at 27 oil and gas companies and 26 major insurers seeking improved disclosure of risks related to deepwater oil and gas operations. See www.ceres.org/Page.aspx?pid=1266.

Similarly, investor concerns about mining safety received increased attention after the explosion at the Massey Upper Big Branch coal mine in April 2010. The Dodd-Frank Wall Street Reform and Consumer Protection Act, which became law in July 2010, requires significantly improved disclosure of mining-related safety risks. Section 1503 requires public companies that operate a "coal or other mine" to disclose in SEC filings a wide range of health and safety violations, including miner fatalities as well as the total dollar value of proposed violations assessments from the Mine Safety and Health Administration.[29] Section 1503 also requires mine operators to file a "current report" on Form 8-K disclosing the receipt of certain notices or orders of mine safety violations or a pattern of such violations.[30] On December 15, 2010, the SEC released a proposed rule implementing this section, which calls for improved mining safety disclosure in quarterly reports, annual filings, and shortly after material events occur, in Form 8-K filings.[31]

Water scarcity and water quality are also increasingly important to investors.[32] These issues have arisen in the context of climate change disclosure,[33] hydraulic fracturing practices[34] and municipal bonds. In October 2010, Ceres released a report which found that some of the nation's largest public utilities may face moderate to severe water supply shortfalls in the coming years, yet these risks are not reflected in the pricing or disclosure of municipal bonds that public utilities rely on to finance their infrastructure projects.[35] The report recommends that in order to ensure material water disclosure by municipal utilities, securities regulators should provide guidance to issuers and underwriters regarding disclosure of material water and climate risks.[36] It also notes that while the SEC Guidance mentions the importance of disclosing certain water risks as part of material climate change disclosure, similar disclosure regulations for municipal bonds do not yet exist.

Thus, climate change is not the only ESG issue that may pose material risks and opportunities. But it is perhaps the paradigm of an environmental issue that may significantly impact a company's financial condition yet is not being adequately addressed by most corporations. Precisely because climate change cuts across the global economy and is interconnected with numerous environmental and social concerns, such as oil drilling, water scarcity and mining, it warrants special attention from companies.

29 Pub. L. 111-203, § 1503(a) (July 21, 2010).

30 Id. § 1503(b).

31 See SEC, News Release, "SEC Proposes Specialized Disclosure of Mine Safety Information Under Dodd-Frank Act" (Dec. 15, 2010), www.sec.gov/news/press/2010/2010-246.htm; SEC, Proposed Rule, Mine Safety Disclosure, 75 Fed. Reg. 80,374 (Dec. 22, 2010).

32 See, e.g., Jeff Rodgers, World Resources Institute, "Water Risk Could Sink Investors" (Mar. 22, 2010), www.wri.org/stories/2010/03/water-risk-could-sink-investors; CDP, News Release, "Carbon Disclosure Project reveals water constraints now a boardroom issue for global corporations" (Nov. 12, 2010), www.cdproject.net/en-US/WhatWeDo/Pages/news-event.aspx.

33 Jeremy Osborn, "Corporate water disclosure: the devil is in the details," The Guardian (Jan. 24, 2011), www.guardian.co.uk/sustainable-business/corporate-water-disclosure-response-disappointing-details.

34 Darryl Fears, "Energy firms queried on gas-extraction technique," Washington Post (Jan. 22, 2011), www.washingtonpost.com/wp-dyn/content/article/2011/01/21/AR2011012106946.html.

35 Ceres, "The Ripple Effect: Water Risk in the Municipal Bond Market," at 4-7 (Oct. 2010), www.ceres.org/Document.Doc?id=625.

36 Id. at 9.

SEC DISCLOSURE EXPECTATIONS AND HOW COMPANIES ARE RESPONDING

The SEC's new interpretive guidance on climate risk disclosure interprets existing regulatory requirements, primarily provisions of the Commission's Regulation S-K, that are the source of obligations to disclose material information related to climate change and that have long been in force with regard to various environmental disclosure matters…[37] The Guidance covers four types of climate risks and opportunities: impacts of domestic legislation and regulation, international accords, indirect consequences of regulation or business trends, and physical impacts of climate change.

Methodology for Selecting Companies and Rating Disclosures

Filings by companies in a variety of industries were assessed for possible inclusion in this report because of climate change's impacts on a broad range of industries. We also chose to emphasize large capitalization companies, which tend to face a larger array of climate risk and opportunity issues than smaller companies—although it is important to point out that small companies also face material climate risks and opportunities. Electric power companies are emphasized in the report because at this early stage in the evolution of mandatory climate disclosure, utilities tend to report more information than other companies.

This report's aim was not to single out companies, and we recognize that disclosure practice in this area is evolving rapidly, as are the underlying factors that influence climate risks and opportunities. For every company we found that had "poor" or "fair" disclosure—or no disclosure at all—dozens of similarly situated companies provided similar reporting. We found that "good" disclosure examples were rare, and we found no instances of disclosure we believed should be rated "excellent."

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37 The Guidance relies principally upon Items 101, 103, 303 and 503(c) of Regulation S-K. See SEC Guidance, 75 Fed. Reg. at 6293-96. Item 101(c) requires, among other things, disclosure of the material effects of compliance with federal, state, and local environmental laws, 17 C.F.R. 229.101(c), and Item 103 requires disclosure of risks associated with non-routine legal proceedings involving the registrant, 17 C.F.R. 229.103. Item 303, concerning Management's Discussion and Analysis, requires disclosure of "[a]ny such known trends or uncertainties that have had or that the registrant reasonably expects will have a material favorable or unfavorable impact on net sales or revenues or income from continuing operations." 17 C.F.R. 229.303(a)(3)(ii). Item 503(c) requires disclosure of the most significant factors that make investment in the registrant speculative or risky. 17 C.F.R. 229.503(c).

The rating of disclosures using the terms "poor," "fair," and "good" is a subjective assessment based on the authors' evaluation of the SEC Guidance and our assessment of reasonable investor expectations for high-quality disclosure. The elements of poor, fair and good disclosure vary depending on the topic—such as physical risks or regulatory risks—and are discussed in the body of the report.

Regulatory Risk and Opportunity: Impact of Domestic Legislation and Regulation

The Guidance explains that "significant developments in federal and state legislation and regulation regarding climate change" may trigger disclosure obligations under Commission rules and regulations, including Items 101, 103, 503(c) and 303 of Regulation S-K.[38] These can include, under Item 101, obligations to disclose material estimated capital expenditures for control facilities, and risk factor disclosure regarding existing or pending legislation or regulation. Under Item 303, a registrant must assess whether enacted legislation or regulation is likely to have a material effect on the registrant's financial condition or results of operations. Pending legislation and regulation related to climate change can affect profits or losses from purchases or sales of tradable emissions credits; costs required to alter facilities in order to reduce GHG emissions; and profits or losses arising from increased or decreased demand for goods and services resulting from regulation or legislation.

Good regulatory risk and opportunity disclosure not only describes existing and proposed regulations and the company's positioning, but quantifies the impact to the maximum extent feasible.

In the case of a known uncertainty, such as pending legislation or regulation, the Guidance explains that analysis of whether disclosure is required in Management's Discussion and Analysis ("MD&A") "consists of two steps:" (1) whether the pending legislation or regulation is reasonably likely to be enacted, and (2) whether the measure, if enacted, is reasonably likely to have a material effect on the registrant, its financial condition or results of operations. Unless management can determine that the answer to one of these inquiries is "no," MD&A disclosure concerning the legislation or regulation "is required."[39] The Guidance cautions that management, in evaluating its disclosure obligations concerning proposed laws, should not restrict itself to negative consequences, but should consider whether the law may provide new business or cost-cutting opportunities.

Good regulatory risk and opportunity disclosure not only describes existing and proposed regulations and the company's positioning, but quantifies the impact to the maximum extent feasible, while assigning a monetary value or a range of possible values to that impact. Quantification maximizes the utility of disclosures for analysts and investors, who find it difficult to assess the financial impacts of purely qualitative disclosures.

The SEC Guidance provides examples of some of the specific items that can be disclosed, each of which can be quantified or assigned a dollar value:

- Costs to purchase, or profits from sales of, allowances or credits under a "cap and trade" system;
- Costs required to improve facilities and equipment to reduce emissions in order to comply with regulatory limits or to mitigate the financial consequences of a "cap and trade" regime; and
- Changes to profit or loss arising from increased or decreased demand for goods and services produced by the registrant arising directly from legislation or regulation, and indirectly from changes in costs of goods sold.[40]

38 SEC Guidance, 75 Fed. Reg. at 6295.
39 Id. at 6296.
40 Id.

INVESTOR EXPECTATIONS FOR GOOD DISCLOSURE— REGULATORY RISKS AND OPPORTUNITIES

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For investors, disclosure of regulatory risks and opportunities for companies in many sectors—not just high emitters—is a vital part of climate risk disclosure. Of course, disclosure by companies will vary significantly by sector in both quality and quantity, and companies in high-emitting sectors, like power companies, tend to disclose more information than companies in other sectors. The following examples of regulatory risk disclosure are focused solely on the *quality* of the information companies disclosed.

Poor disclosure of regulatory risks does not mention existing or proposed regulations, or mentions them without analyzing possible effects on the company. For example, **Dean Foods Company**, a food processor and distributor, stated in its 2009 10-K filing[41] that its "business operations are subject to numerous environmental and other air pollution control laws," and noted that "various laws and regulations addressing climate change are being considered or implemented at the federal and state levels." The company discussed the potential impact of these laws only in the most general terms, stating that such laws "could require us to replace equipment, install additional pollution controls, purchase various emission allowances or curtail operations," the costs of which "could adversely affect our results of operations and financial condition." Unhelpfully vague or general references to regulatory risk of this type, often referred to as "boilerplate," are common in the SEC filings of companies that mention climate change and are of limited use to investors. While Dean Foods does not face the same level of regulatory risk as a company in a heavily regulated sector, Dean's disclosures provide too little information to provide a means of assessing its climate risk.[42]

Fair disclosure of regulatory risk discusses legislation and its possible effects on the company, but makes no attempt at quantifying or assigning a value to the risks, or fails to place such values in a meaningful context. **Southern Company**, an electric power company, disclosed general—as opposed to climate change-specific—environmental compliance costs with precision in its 2009 10-K filing.[43] In contrast, the company discussed the possibility of "mandatory [climate change] requirements related to greenhouse gas emissions, renewable energy standards, and energy efficiency standards" but offered only general statements about the financial impacts of those developments:

> The cost impact of [GHG emissions] legislation, regulation, new interpretations, or international negotiations would depend upon the specific requirements enacted and cannot be determined at this time. For example, the impact of currently proposed legislation relating to greenhouse gas emissions would depend on a variety of factors, including the specific greenhouse gas emissions limits or renewable energy requirements, the timing of implementation of these limits or requirements …and cost recovery through regulated rates or market-based rates for Southern Power.
>
> Although the outcome cannot be determined at this time, legislation or regulation related to greenhouse gas emissions, renewable energy standards, air quality, coal combustion byproducts and other matters, individually or together, are likely to result in significant and additional compliance costs, including significant capital expenditures, and could result in additional operating restrictions. These costs could affect future unit retirement and replacement decisions, and could result in the retirement of a significant number of coal-fired generating units of the traditional operating companies….

41 Dean Foods Company, Form-10-K (filed Feb. 25, 2010), www.sec.gov/Archives/edgar/data/931336/000119312510039767/d10k.htm.

42 Dean Foods' voluntary disclosure provided somewhat more detail, stating the company's view that "[d]irect regulation or a cap appears unlikely in the United States in the near term"; and that even adoption of a GHG regulatory scheme would not involve "disproportionate risk" because it would apply "across the industry and not create risk to one particular organization." Dean's voluntary disclosure stated that because of the company's large scale, it "may have a slight advantage if the industry becomes regulated, because of our ability to distribute production among many locations and implement scalable solutions for energy efficiency and transportation." It added that "of our US operations only 5% of our facilities emit 25,000 tons of CO2e (the likely threshold) or more of direct emissions." Dean Foods Company, Response to CDP 2010 Investor Information Request, www.cdproject.net/Sites/2010/92/4392/Investor CDP 2010/Pages/DisclosureView.aspx.

43 The Southern Company, Form 10-K (filed Feb. 25, 2010), www.sec.gov/Archives/edgar/data/3153/000009212210000009/g21794e10vk.htm.

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In the view of many investors, *good disclosure* on this topic discusses in detail the financial impacts of existing and proposed regulatory requirements on the company. For example, the electric power company **AES Corp.** disclosed in its 2009 10-K[45] the financial impacts of the Regional Greenhouse Gas Initiative (RGGI), a currently operating cap-and-trade regime in the Northeastern U.S., on the company in both 2010 and 2011: "Based on these assumptions, the Company estimates that the RGGI compliance costs could be approximately $17.5 million per year from 2010 through 2011, which is the last year of the first RGGI compliance period." The company's 10-K also provided information about the modeling and methodology used to arrive at this figure, as well as disclaimers that the actual financial impact on the company may be different than this amount.

Companies should also disclose the potential material financial impacts of proposed legislation and regulations that are "reasonably likely to be enacted"[46] in SEC filings. Voluntary disclosure released in 2004 by the electric power company **AEP** provided a good model for this type of reporting. The company disclosed information about the potential impacts on the company of two U.S. Senate bills to address climate change emissions: "[M]anagement conducted quantitative analyses of the potential costs of currently proposed emissions control regimes…. Compliance with the greenhouse gas control provisions of the McCain-Lieberman amendment appears possible with existing technologies at net present value costs between $0.5 and $0.9 billion, additional to the base case. The Carper bill would require much higher additional costs, between $3.0 and $6.4 billion."[47] Similar to AES' 10-K disclosure, AEP disclosed additional information about models used, methodologies and disclaimers about the accuracy of the information.

Although discussions of the total potential financial impact of legislation are nearly impossible to find in recent SEC filings, reporting of regulatory risks by utilities has improved since the Guidance was issued. A recent study of 2009 10-Ks from 26 power companies found: "A number of issuers disclosed for the first time the specific facets of [climate change] legislation that would have material effects on their companies. Common topics among the filers who chose to discuss legislative details were factors that might affect financial performance, such as the availability of offsets, allowance prices, technological development and secondary effects on fuel prices."[48]

Regulatory Risk & Opportunity: International Accords

The SEC Guidance notes that registrants should consider whether treaties or international accords relating to climate change have a material impact on their business, including the Kyoto Protocol, the EU Emissions Trading Scheme ("ETS"), and other international activities. Registrants whose businesses "are reasonably likely to be affected" by treaties or international accords relating to climate change should monitor the progress of potential agreements and consider the possible impact in satisfying their disclosure obligations based on the MD&A and materiality principles.[49]

45 The AES Corporation, Form 10-K (filed Feb. 25, 2010), www.sec.gov/Archives/edgar/data/874761/000119312510041006/d10k.htm.

46 SEC Guidance, 75 Fed. Reg. at 6296.

47 Donald M. Carlton et al., "An Assessment of AEP's Actions to Mitigate the Economic Effects of Emissions Policies" (Aug. 31, 2004), www.aep.com/environmental/reports/shareholderreport/docs/ReportOnly.pdf.

48 Jeffrey A. Smith, "Early Effects Of SEC's Climate Disclosure Release," Law360 (Dec. 3, 2010) (discussing SEC disclosure regarding the American Clean Energy and Security Act (Waxman-Markey)), www.cravath.com/files/Uploads/Documents/Publications/3255245_1.pdf.

49 SEC Guidance, 75 Fed. Reg. at 6296.

Companies disclosing information related to international accords can apply the guidance provided above for domestic regulations to the international context. Good disclosure of international accords, for example, discusses in detail the financial impact of regulatory requirements on the company, and attempts to quantify or monetize the impacts, where possible. **Total S.A.**, an integrated oil and gas company, provided ***fair disclosure*** in its 2009 20-F filing,[50] because it discussed international accords and their possible effects on the company, but made no attempt at quantifying or assigning a value to the risks. In its 20-F, the company discussed EU efforts to reduce GHG emissions under the Kyoto Protocol: "In accordance with the 2009 revision of the aforementioned directive, a quota auctioning mechanism is scheduled to be set up in 2013. When this system is established, Total's industrial facilities may incur capital and operating costs to comply with such legislation including the acquisition of emissions allowances."

Investors must turn to unregulated voluntary disclosure, however, to find Total's financial projections about the future impacts of the EU ETS on the company. In its reporting to CDP, Total stated, "In Europe, according to preliminary estimates, our concerned exposed sectors may receive only 70 to 80% of their required allocations for the third period of the EU ETS, beyond 2012; this may represent an additional charge, according to market price, from 1 G€ to 1.6 G€ by taking into account a cost of 25€ per tonne of CO2 for the 2013-2020 period."[51] As previously discussed, the Guidance notes that material elements of voluntary disclosure must also be included in SEC filings.

Indirect Consequences of Regulation or Business Trends

The SEC Guidance states that "[l]egal, technological, political and scientific developments regarding climate change may create new opportunities or risks for registrants," by, for example, decreasing demand for goods that produce significant GHG emissions; increasing demand for goods that result in lower emissions than competing products; increasing competition to develop innovative new products; increasing demand for generation and transmission of energy from alternative energy sources; and decreasing demand for services related to carbon-based energy sources, such as drilling services.[52] The SEC explains that such trends and risk factors may require disclosure as risk factors, in MD&A, or as part of a registrant's business description under Item 101.

Companies may also need to disclose climate-related reputational impacts as risk factors. As the Guidance explains: "Depending on the nature of a registrant's business and its sensitivity to public opinion, a registrant may have to consider whether the public's perception of any publicly available data relating to its GHG emissions could expose it to potential adverse consequences to its business operations or financial condition resulting from reputational damage."[53]

Good disclosure of business trends will require a thoughtful and candid discussion of management's understanding of how climate change is affecting business trends. General statements about possible impacts of climate change are of limited value, but detailed discussions of management's views of climate change-related trends relevant to the company's financial position or prospects, or ways in which the economy's reaction to climate change and GHG regulation may indirectly affect the company's operations, are more useful to investors.

General statements about possible impacts of climate change are of limited value, but detailed discussions of management's views… are more useful to investors.

50 Total S.A., Form 20-F (filed Apr. 1, 2010), www.sec.gov/Archives/edgar/data/879764/000119312510074711/d20f.htm.

51 Total S.A., Response to Investor CDP 2010 Information Request, www.cdproject.net/Sites/2010/57/19257/Investor%20CDP%202010/Pages/DisclosureView.aspx.

52 See SEC Guidance, 75 Fed. Reg. at 6296.

53 Id.

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INVESTOR EXPECTATIONS FOR GOOD DISCLOSURE—INDIRECT CONSEQUENCES OR BUSINESS TRENDS

Climate change will indirectly affect both business trends in certain markets—*e.g.*, shifting consumer demand and creating new market opportunities—and individual companies' bottom lines—*e.g.*, by shifting weather and thus agricultural patterns and thereby increasing the price of agricultural inputs. The SEC Guidance cites a variety of categories of such indirect effects, including "[d]ecreased demand for goods that produce significant greenhouse gas emissions;" "[i]ncreased demand for goods that result in lower emissions than competing products;" "[i]ncreased competition to develop innovative new products;" "[i]ncreased demand for generation and transmission of energy from alternative energy sources;" and "[d]ecreased demand for services related to carbon based energy sources…."[54]

Poor disclosure of the indirect consequences of climate change might mention shifting consumer demand or regulatory developments potentially affecting competition or market share, but fails to provide sufficient detail to be useful to investors. Consequently, investors would have no clear indication of how climate risk will affect the operations and financial condition of the registrant. For example, coal mining corporation **Massey Energy Company** disclosed in its 2009 10-K filing[55] that "[g]lobal climate change continues to attract considerable public and scientific attention." The company added that "[e]nactment of laws and passage of regulations regarding greenhouse gas emissions by the United States or some of its states, or other actions to limit carbon dioxide emissions, could result in electric generators switching from coal to other fuel sources," "which could significantly affect demand for [Massey] products." More context and detail are necessary for this disclosure to help investors meaningfully assess Massey's climate change-related risks and opportunities.

Fair disclosure provides more information concerning how the company's financial condition or operations may be indirectly affected by climate change, while still omitting key information sought by investors, such as potential financial impacts. Chemical company **Air Products & Chemicals Co.**'s 2009 10-K disclosure[56] is terse and unspecific in identifying indirect climate change effects, noting only that "[a]ny legislation that limits or taxes GHG emissions from Company facilities could impact the Company's growth by increasing its operating costs or reducing demand for certain of its products." The company also includes a slightly more detailed discussion of how market shifts due to GHG regulation may present new business opportunities: "Regulation of GHG may also produce new opportunities for the Company…. The Company is also 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, the potential demand for clean coal and the Company's carbon capture solutions could increase demand for oxygen, one of the Company's main products, and the Company's proprietary technology for delivering low-cost oxygen."

Good disclosure of indirect climate change effects and climate-related business trends includes quantifications of impacts when feasible, and discussion of opportunities created by regulation or changing business trends. Increased attention paid to environmental concerns, new climate-related regulations, and growing consumer demand for climate-friendly products are giving rise to emerging markets for energy efficient and "green" products and services, and companies that understand these trends and properly assess their emissions and climate risk are better positioned to seize developing business opportunities.

54 Id.

55 Massey Energy Company, Form 10-K (filed Mar. 1, 2010), www.sec.gov/Archives/edgar/data/37748/000003774810000014/document.htm.

56 Air Products and Chemicals, Inc., Form 10-K (filed Nov. 23, 2010), www.sec.gov/Archives/edgar/data/2969/000119312510266784/d10k.htm.

An example of ***good disclosure*** of the indirect effects of climate change—disclosure that explains management's strategy, includes quantified financial data, and gives context to the details provided—is found in **Siemens**' 2009 20-F filing.[57] The electrical engineering and electronics company explained that it considers climate change to be a "global megatrend[] that will have an impact on all humanity and leave [its] mark on global developments." Siemens recognized that "[t]here is a strong need for innovative technologies to increase efficiency and reduce the emissions related to energy generation and consumption." The company reported that it has "aligned [its] strategy and business activities" to "reduce impacts on the environment and minimize carbon dioxide emissions." It disclosed that this strategy is focused on capitalizing on the growing market for "products and solutions with outstanding energy efficiency, such as combined cycle power plants, energy-saving light bulbs and intelligent building technologies; systems and components for renewable forms of energy, such as wind turbines and solar power; and environmental technologies for cleaner water and air."

The company named this strategy its "Environmental Portfolio," and it provided investors with information about how products are selected for inclusion based on their emission reduction profile. Importantly, Siemens disclosed estimated financial data about its Environmental Portfolio, which allows investors to evaluate the company's future financial outlook. It also explained that it retains outside auditors to evaluate the profitability of the portfolio, about which Siemens reported:

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> In addition to its environmental benefits, our Environmental Portfolio enables us to compete successfully in attractive markets and generate profitable growth. We had set ourselves a revenue target for the Environmental Portfolio—to generate €25 billion in revenue from the portfolio by the end of fiscal 2011. We achieved that goal significantly earlier than planned. Including revenues from newly developed and additionally qualified products and solutions, revenues from the portfolio in the current year amounted to €27.6 billion and exceeded the comparable revenues of €26.8 billion in fiscal 2009. This means that in fiscal 2010 our Environmental Portfolio already accounted for about 36% of our total revenues. As we continue to see growth opportunities for our Environmental Portfolio, we have set a new target within One Siemens to exceed revenue of €40 billion from the portfolio by the end of fiscal 2014.

Disclosure of identified market trends, both negative and positive, how a company plans to adapt to or take advantage of such trends, and what this will mean for a company's market value are all important aspects of good disclosure of the indirect impacts of climate change.

Physical Impacts

Significant physical effects of climate change, such as increased incidence of severe weather, rising sea levels, reduced arability of farmland, and reduced water availability and quality, have the potential to affect a registrant's operations, competitiveness, and results. The SEC Guidance notes that "severe weather can cause catastrophic harm to physical plants and facilities and can disrupt manufacturing and distribution processes."[58] The Guidance also points out that severe weather is involved in most property losses paid by insurance companies, and that a 2007 Government Accountability Office study "cites a number of sources to support the view that severe weather scenarios will increase as a result of climate change brought on by an overabundance of greenhouse gases."[59]

57 Siemens Aktiengesellschaft, Form 20-F (filed Dec. 2, 2010), www.sec.gov/Archives/edgar/data/1135644/000095012310110234/f03502e20vf.htm.

58 SEC Guidance, 75 Fed. Reg. at 6297.

59 Id.

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INVESTOR EXPECTATIONS FOR GOOD DISCLOSURE—PHYSICAL IMPACTS

Climate change is having concrete physical impacts on the operations and infrastructure of many companies. The SEC Guidance makes clear that, where material, such physical climate change-related impacts, as well as risks and opportunities, must be disclosed.

Poor disclosure of physical risks posed by climate change acknowledges that risks exist, but fails to specify their nature or magnitude. **American National Insurance Company**, which provides life, annuity, health, property, casualty and other types of insurance, recognized in its 2009 10-K[60] that "increased claims activity resulting from catastrophic events, whether natural or man-made, may result in significant losses," and that "[c]limate change may also affect the affordability and availability of property and casualty insurance and the pricing for such products." No further details are provided, however, other than fluctuating aggregated catastrophic loss figures for several past years, which include non-climate change loss.

Fair disclosure of physical effects specifies the type of risk faced, but fails to provide any quantification of that risk, explain which operational segments might be impacted, or describe how the company plans to respond. An example is the agribusiness company **CHS Inc.**'s 2009 10-K disclosure,[61] which acknowledged that climate change may affect the "frequency and severity of storms, droughts, floods and other climatic events" resulting in regional agricultural output that "could …adversely affect the demand for our crop output products such as fertilizer and chemicals." The company also noted that "[b]ecause our refineries are inland facilities, a possibility of increased hurricane activity due to climate change, which may result in the temporary closure of coastal refineries, could result in increased revenues and margins to us due to the decrease in supply of refined products in the marketplace."

Good disclosure of physical impacts provides detailed information about the nature of climate change risks and opportunities, and quantifies them where possible. **AES**'s 10-K for 2009[62] is helpful in that it enumerated different types of physical hazards the company could face from climate change and specific impacts on the company:

> [A]ccording to the Intergovernmental Panel on Climate Change, physical risks from climate change could include, but are not limited to, increased runoff and earlier spring peak discharge in many glacier and snow fed rivers, warming of lakes and rivers, an increase in sea level, changes and variability in precipitation and in the intensity and frequency of extreme weather events. Physical impacts may have the potential to significantly affect the Company's business and operations. For example, extreme weather events could result in increased downtime and operation and maintenance costs at the electric power generation facilities and support facilities of the Company's subsidiaries. Variations in weather conditions, primarily temperature and humidity also would be expected to affect the energy needs of customers. A decrease in energy consumption could decrease the revenues of the Company's subsidiaries. In addition, while revenues would be expected to increase if the energy consumption of customers increased, such increase could prompt the need for additional investment in generation capacity. Changes in the temperature of lakes and rivers and changes in precipitation that result in drought could adversely affect the operations of the fossil-fuel fired electric power generation facilities of the Company's subsidiaries. Changes in temperature, precipitation and snow pack conditions also could affect the amount and timing of hydroelectric generation.

60 American National Insurance Co., Form 10-K (filed Mar. 11, 2010), www.sec.gov/Archives/edgar/data/904163/000095012310023707/c97597e10vk.htm.

61 CHS, Inc., Form 10-K (filed Nov. 12, 2010), www.sec.gov/Archives/edgar/data/823277/000095012310104712/c61063e10vk.htm.

62 The AES Corporation, Form 10-K (filed Feb. 25, 2010), www.sec.gov/Archives/edgar/data/874761/000119312510041006/d10k.htm.

With physical risk, as with other risks, concrete detail and financial detail are desirable because they allow investors to evaluate the risk a company faces with respect to its operations, and to draw comparisons among companies. **Chiquita Brands International Inc.**, for example, provided ***good disclosure*** about its physical climate risks in its 2009 10-K filing.[63] First, the company disclosed how physical climate change risks can affect growing conditions for foods it sells: "To the extent that climate changes lead to more frequent or more severe adverse weather conditions or events, this could increase the impact on our operations" because "[b]ananas, lettuce and other produce can be affected by drought, temperature extremes, hurricanes, windstorms and floods; floods in particular may affect bananas, which are typically grown in tropical lowland areas. Fresh produce is also vulnerable to crop disease and to pests, which may vary in severity and effect, depending on …climatic conditions."

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Next, Chiquita discussed the range of specific effects of these conditions on the company, from lost harvests to reduced crops to increased costs, and other issues: "Unfavorable growing conditions caused by these factors can reduce both crop size and crop quality. In extreme cases, entire harvests may be lost. These factors may result in lower sales volume and, in the case of farms we own or manage, increased costs due to expenditures for additional agricultural techniques or agrichemicals, the repair of infrastructure, and the replanting of damaged or destroyed crops. Incremental costs also may be incurred if we need to find alternate short-term supplies of bananas, lettuce or other produce from other growers."

Finally, Chiquita quantified some of the impacts it has faced. The company reported on "shipping interruptions, port damage and changes in shipping routes as a result of weather-related disruptions," and disclosed that "as a result of flooding which affected some of our owned farms in Costa Rica and Panama in December 2008, we incurred approximately $33 million of higher costs, including logistics costs, related to rehabilitating the farms and procuring replacement fruit from other sources."

63 Chiquita Brands International, Inc., Form 10-K (filed Feb. 26, 2010), www.sec.gov/Archives/edgar/data/101063/000119312510043003/d10k.htm.

OTHER KEY ELEMENTS OF STRONG CORPORATE DISCLOSURE

While the SEC Guidance addresses regulatory, physical and indirect risks and opportunities in detail, in some circumstances companies must disclose additional information in SEC filings, particularly related to climate change litigation. In addition, companies must disclose other material climate change information under long-established SEC disclosure regulations. One such category is climate-related legal proceedings involving the registrant or its affiliates, which must be disclosed under long-standing SEC rules governing disclosure of legal proceedings in general and environmental proceedings in particular. Climate-related proceedings can be expected to become a more significant factor as federal and state regulatory programs and enforcement efforts continues to develop.

For some companies, information about GHG emissions, their strategic approach to climate change, or emissions management is material.

For some companies, information about GHG emissions, their strategic approach to climate change, or emissions management is material. As shown by the examples of disclosure below, some companies already report this information in their SEC filings. And three major power companies have agreed to disclose such information in SEC filings, where material, in an agreement with the New York State Attorney General settling an inquiry over inadequate reporting.[64]

It is beyond the scope of this report to discuss when emissions, emissions management information, and a strategic approach to climate change are likely to be material for a particular company, given that materiality is a fact-specific inquiry based upon a reasonable investor standard. We therefore focus our discussion on investor statements describing these issues and the importance of disclosing them in securities filings, and on examples of disclosure.

In the Global Framework for Climate Risk Disclosure, major institutional investors worldwide strongly encouraged companies to report GHG emissions, their strategic analysis of climate change, and emissions management information in securities filings. The investors who created the Framework include the nation's two largest public pension funds and institutional investors in the U.S., Europe, Australia and New Zealand.[65]

64 See, e.g., New York State Office of the Attorney General, News Release, "Attorney General Cuomo, Joined By Vice President Gore, Announces Agreement With Major Energy Company, Dynegy Inc.: Second Major Agreement in Cuomo Initiative Requires Dynegy to Detail Financial Liabilities Related to Climate Change" (Oct. 23, 2008). In September 2007, New York State Attorney General Andrew Cuomo subpoenaed the executives of several major energy companies for information on whether disclosures to investors in filings with the SEC adequately described the companies' financial risks related to their emissions of global warming pollution. Cuomo issued subpoenas under New York State's Martin Act, a 1921 state securities law that grants the Attorney General broad powers to access the financial records of businesses.

65 See Ceres, News Release, "Leading Investors Worldwide Release Global Framework for Climate Risk Disclosure" (Oct. 11, 2006) (announcing the California Public Employees' Retirement System ("CalPERS"), the California State Teachers' Retirement System ("CalSTRS"), and the Connecticut Retirement Plans and Trust Funds call for companies to disclose GHG emissions and other climate change information in their securities filings).

Other Key Elements of Strong Corporate Disclosure

Key topics covered in the Global Framework are discussed in more detail below. These topics—GHG emissions, a strategic analysis, and emissions management information—have influenced both mandatory and voluntary disclosure frameworks, and should continue to do so in the future. For example, newly issued guidance from Canadian securities regulators on environmental disclosure in securities filings addresses the strategic analysis issue: "If an issuer has implemented environmental policies that are fundamental to its operations, item 5.1(4) of Form 51-102F2 requires the issuer to describe these policies and the steps it has taken to implement them."[66] The new ASTM climate change reporting standard addresses both emissions management information and strategy, noting that disclosures that should be made by a reporting entity, if material, include "a discussion of the company's current management position on and strategic activities related to climate change."[67] Finally, the Climate Disclosure Standards Board's new framework for climate reporting in financial filings, developed by NGOs, corporations, accounting bodies and representatives of the big four accounting firms, addresses each element of the Global Framework.[68]

In addition to the categories specifically addressed in the SEC Guidance, the following categories of information relating to climate risks and opportunities merit close consideration and, where appropriate, disclosure: climate change litigation, GHG emissions, and strategic analysis of climate risk and emissions management.

Climate Change Litigation

Climate change-related judicial or agency proceedings involving a publicly traded company, like other forms of litigation or administrative proceedings that may result in significant liability or fines to a company, must be disclosed where material. Also, a proceeding must be disclosed, independently of the company's determination of materiality, if the firm's potential monetary exposure reaches specific thresholds set forth in SEC regulations addressing disclosure of environmental proceedings.

SEC regulations generally require disclosure of material legal proceedings involving the company, its subsidiaries, or its property.[69] Item 103 of Regulation S-K establishes the general rule that firms must "[d]escribe briefly any material pending legal proceedings, other than ordinary routine litigation incidental to the business."[70] It further specifies, however, that "notwithstanding" this general standard, firms must disclose agency or judicial proceedings "arising under any Federal, State or local provisions that have been enacted or adopted …primar[ily] for the purpose of protecting the environment" if (A) such proceedings are material to the registrant's business or financial condition; (B) the proceeding involves a claim for damages that exceeds 10 percent of the firm's assets, or (C) a governmental authority is a party to the proceeding (unless the firm reasonably believes any fine or damages would amount to less than $100,000).[71]

Legal proceedings involving climate change may trigger disclosure requirements—including proceedings in which the registrant is charged by governmental authorities or citizen-plaintiffs with having violated regulatory emissions limitations, those involving permitting requirements for particular projects, or cases involving environmental analysis of climate change-related impacts.[72] The above-quoted SEC regulations make clear that certain proceedings can by themselves require disclosure independent of management's judgments concerning materiality. Even when the potential monetary liability may be

66 Canadian Securities Administrators, Staff Notice 51-333, Environmental Reporting Guidance at 16 (Oct. 27, 2010).

67 See ASTM standard E2718-10, Standard Guide for Financial Disclosure Attributed to Climate Change at 6.2.2.1.

68 See CDSB, Climate Change Reporting Framework – Edition 1.0 at 19-26 (Sept. 2010) ("CCRF"), www.cdsb-global.org/.

69 See SEC Guidance, 75 Fed. Reg. at 6293-94 (citing, inter alia, Instruction 5 to Item 103, 17 C.F.R. 229.103).

70 17 C.F.R. 229.103.

71 Id., Instruction 5.

72 For a comprehensive current list of current climate change litigation in the U.S., including descriptions of cases, see Arnold and Porter LLP, www.climatecasechart.com.

modest or nonexistent, a legal proceeding may still be material and subject to disclosure. For example, disclosure may be required if the proceeding could result in an injunction barring a project with material effects on the company's operations or financial prospects, or if the proceeding could establish a precedent that would have a significant effect upon the firm's operations or financial condition.[73]

GHG Emissions

GHG emissions data—including both current emissions and trends over time—is often critical information... for a company's own efforts to assess its climate change-related risks and opportunities.

GHG emissions data—including both current emissions and trends over time—is often critical information both for a company's own efforts to assess its climate change-related risks and opportunities, and for investors determining a company's financial condition and prospects. Management and investors can use GHG emissions data to help approximate the financial impacts companies may face from future climate change regulations. The SEC Guidance acknowledges existing disclosure of GHG emissions in SEC filings, and does not address the circumstances in which disclosure of emissions under the materiality standard is required.[74] The Guidance does suggest that, even where disclosure is not required, quantification of GHG emissions may be necessary as a means of determining a company's exposure to climate risk. The Guidance explains that "[i]n identifying, discussing and analyzing known material trends and uncertainties, registrants are expected to consider all relevant information even if that information is not required to be disclosed."[75]

Furthermore, investors worldwide have expressed a clear desire for standardized emissions reporting by companies, through shareholder resolutions, the development of a framework for disclosure in securities filings and voluntary questionnaires, among other initiatives.[76] Several electric power companies, and a few companies in other industries, have for several years responded to this demand by including emissions data in SEC filings. A study by the law firm McGuire Woods of over 400 2008 10-K filings found that 12 companies provided disclosure regarding the amount of their GHG emissions.[77]

Investors want not only a snapshot of current emissions, but a sense of the direction of the company's future emissions and carbon management strategies. Specifically, investors have encouraged companies to disclose:

- Actual historical direct and indirect emissions since 1990;
- Current direct and indirect emissions; and
- Estimated future direct and indirect emissions of greenhouse gases from their operations, purchased electricity, and products/services.[78]

Investors have asked companies to report absolute emissions using the most widely agreed upon international accounting standard—the Corporate Accounting and Reporting Standard (revised edition) of the Greenhouse Gas Protocol, developed by the World Business Council for Sustainable Development and the World Resources Institute.[79] If companies use a different accounting standard, they should specify the standard and the rationale for using it.

73 See Item 103, Instruction 5.A., 17 C.F.R. 229.103 (noting that disclosure is required, even if monetary thresholds are not reached, if "[s]uch proceeding is material to the business or financial condition of the registrant").

74 See SEC Guidance, 75 Fed. Reg. at 6292, n.22.

75 See id. at 6295 (emphasis added); see also id. at 6295 n.62 ("As we have stated before, a company's disclosure controls and procedures should not be limited to disclosure specifically required, but should also ensure timely collection and evaluation of "information potentially subject to [required] disclosure," "information that is relevant to an assessment of the need to disclose developments and risks that pertain to the [company's] businesses," and "information that must be evaluated in the context of the disclosure requirement of Exchange Act Rule 12b-20.") (citing SEC, Release No. 33-8124 (67 Fed. Reg. 57276) (Aug. 28, 2002)).

76 Federal and state environmental laws require GHG emissions reporting by sources with emissions in excess of certain thresholds. For example, EPA's Greenhouse Gas Monitoring Rule requires covered sources to report their GHG emissions beginning January 1, 2010, with the first reports due on March 31, 2011. 40 C.F.R. Pt. 98. While some source and supply types have automatic compliance obligations, the EPA reporting rule is primarily focused on facilities emitting at least 25,000 metric tons of carbon dioxide equivalent per year.

77 Sellers, "Creeping," supra note 24, at 3.

78 "Global Framework for Climate Risk Disclosure," supra note 4, at 5.

79 Id. (citing World Business Council for Sustainable Development & World Resources Institute, "Corporate Accounting and Reporting Standard (revised edition) of the Greenhouse Gas Protocol" (Mar. 2004), www.ghgprotocol.org/standards/corporate-standard).

Other Key Elements of Strong Corporate Disclosure

INVESTOR EXPECTATIONS FOR GOOD DISCLOSURE—GHG EMISSIONS

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Companies' GHG emissions profiles are critical factors in their climate risk strategies and increasingly important to investors, and companies that calculate their GHG emissions should consider including emissions data in their SEC filings. Of course, for companies that determine their GHG emissions constitute a material risk, that data must be included in SEC filings.

Poor disclosure in this area contains GHG emissions data from the past year, but provides no discussion of the meaning of those emissions figures, the methodology used to arrive at them, or where they stand relative to past or expected future emissions.

Fair disclosure of emissions provides current and past emissions data, but fails to calculate projected future emissions or place the company's emissions profile within a context meaningful to investors, such as a regulatory context. Energy company **Consolidated Edison** ("Con Ed") provided emissions data for the years 2005 to 2009 in its 2009 10-K[80] filing and noted that "its greenhouse gas emissions constitute less than 0.1 percent of the nation's greenhouse gas emissions." It noted that its "36 percent decrease in greenhouse gas emissions during the past five years reflects equipment and repair projects, including projects to reduce sulfur hexafluoride emissions, and increased use of natural gas at CECONY's steam production facilities."

A discussion was then made of current New York State carbon dioxide emissions reduction requirements, as well as the possibility of federal GHG emissions caps. Con Ed also described the Regional Greenhouse Gas Initiative, but it provided only a general indication of its specific impacts on the company:

> Beginning in 2009, CECONY [Con Edison Company of New York] is subject to carbon dioxide emissions regulations established by New York State under the Regional Greenhouse Gas Initiative. The initiative, a cooperative effort by Northeastern and Mid—Atlantic states, will first cap and then reduce carbon dioxide emissions resulting from the generation of electricity to a level ten percent below current emissions by 2018. Under the initiative, affected electric generators are required to obtain emission allowances to cover their carbon dioxide emissions, available primarily through auctions administered by participating states or a secondary market. The participating states initiated auctions in 2008 for portions of the 2009 and 2010 allowances.... The cost to comply with legislation, regulations or initiatives limiting the Companies' greenhouse gas emissions ***could be substantial***. (emphasis added)

These existing disclosures provide little information about the *degree* of risk this level of emissions poses to the company, beyond stating that it could be substantial. When discussing its emissions in the context of existing or proposed GHG regulations, it would be more helpful for the company to report the potential financial impacts of those regulations. Furthermore, the disclosure of current and past emissions is useful, but a discussion of projected future emissions would be helpful for investors interested in assessing the company's future prospects.

Good disclosure should include, at a minimum, past, present and projected future GHG emissions data, as well as the methodology the company uses to analyze emissions. For example, power company **Xcel Energy** reported in its 2009 10-K filing[81] that it has "adopted a methodology for calculating CO_2 emissions based on the recently issued reporting protocols of The Climate Registry." It also provided quantified estimates of its past, present and future GHG emissions: "Xcel Energy has estimated that its current electric generating portfolio, which includes coal- and gas-fired plants, emitted approximately 60.1 million tons of CO_2 in 2009. Xcel Energy has also estimated

80 Consolidated Edison, Inc., Form 10-K (filed Feb. 22, 2010), www.sec.gov/Archives/edgar/data/23632/000119312510036116/d10k.htm.

81 Xcel Energy, Inc., Form 10-K (filed Feb. 26, 2010), www.sec.gov/Archives/edgar/data/72903/000104746910001536/a2196778z10-k.htm.

emissions associated with electricity purchased for resale to Xcel Energy customers from generation facilities owned by third parties. Xcel Energy estimates that these third-party facilities emitted approximately 20.7 million tons of CO_2 in 2009. Estimated total CO_2 emissions, associated with service to Xcel Energy electricity customers, declined by 5.9 million tons in 2009 compared to 2008, with a combined cumulative reduction of over 39.0 million tons of CO_2 since 2003."

The company went on to provide more context about its future emissions growth and reduction plans: "Xcel Energy anticipates that its ownership share of Comanche Unit 3, a new coal-fired generation project scheduled for completion in early 2010, will result in CO_2 emissions of approximately 3.4 million tons of CO_2 per year.... Operation of Comanche Unit 3 will help support Xcel Energy's efforts to develop renewable energy, retire older, less-efficient resources and take other steps to reduce emissions across its system consistent with state regulatory processes. Xcel Energy plans to implement clean resource development and conservation plans that will result in overall reductions in Xcel Energy's CO_2 emissions, both in absolute terms and per Kwh of electricity produced."

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Mining company **Rio Tinto** also provided *good disclosure* of its GHG emissions, in its 2009 20-F filing,[82] including contextual information and explaining its emissions calculation method. Specifically, it recognized that "climate change ...[is] one of the [Rio Tinto's] greatest challenges and opportunities," and "[r]educing the greenhouse gas (GHG) emissions intensity of [its] production is a key performance indicator." The company then provided specific GHG emissions data for each year since 2005, noting a 7.5% drop in emissions from 2008 to 2009 due to the divestment of an aluminum smelting plant in China, and stating a total GHG emission reduction goal of 10% by 2015.

Importantly, Rio Tinto also gave investors information on how it calculates its emissions, which it "defined as the sum of on site emissions and those from the net purchase of electricity and steam minus net carbon credits voluntarily purchased from, or sold to, recognised sources, were 41.0 million tonnes of carbon dioxide equivalent, nearly nine million tonnes lower than in 2008. This is the result of asset divestments and reduced levels of production at some operations."

Similarly, the company's disclosure of emissions by business segment provides context to the data and helps investors properly evaluate the company. Rio Tinto specified that its "energy efficient aluminium smelting technology ...represents 71 percent of the Group's energy use, [but] only produces 64 percent of ...total GHG emission[s]...." It also recognized that transportation and processing add significantly to total emissions, and "[i]n 2009, the three most significant sources of indirect emissions associated with [Rio Tinto's] products were: Approximately 4.5 million tonnes of CO_2-e associated with third party transport of our products and raw materials[; a]n estimated 120 million tonnes of CO_2-e associated with customers using our coal in electricity generation and "steel production[; and] approximately 330 million tonnes of CO_2-e associated with customers using our iron ore to produce steel."

Finally, Rio Tinto also disclosed some of its approaches to emissions reduction, including "investing in developing and commercialising carbon capture and storage (CCS) technology," and "work[ing] to develop efficient downstream processes...."

82 Rio Tinto, Form 20-F (filed May 27, 2010), www.sec.gov/Archives/edgar/data/863064/000095012310053740/u08506e20vf.htm.

Strategic Analysis of Climate Risk and Emissions Management

In the Global Framework for Climate Risk Disclosure, investors ask companies to provide analysis that identifies companies' future challenges and opportunities associated with climate change, including management's strategic analysis of climate risk along with a clear and straightforward statement about implications for competitiveness. Where relevant, the following issues should also be addressed: access to resources, the timeframe that applies to the risk, and the firm's plan for meeting any strategic challenges posed by climate risk.

Investors ask companies to provide analysis that identifies companies' future challenges and opportunities associated with climate change.

Specifically, in the Global Framework, investors urge companies to disclose a strategic analysis that includes:

- ***Climate Change Statement***—A statement of the company's current position on climate change, its responsibility to address climate change, and its engagement with governments and advocacy organizations to affect climate change policy.
- ***Emissions Management***—Explanation of all significant actions the company is taking to minimize its climate risk and to identify opportunities. Specifically, this should include the actions the company is taking to reduce, offset, or limit greenhouse gas emissions. Actions could include establishment of emissions reduction targets, participation in emissions trading schemes, investment in clean energy technologies, and development and design of new products. Descriptions of greenhouse gas reduction activities and mitigation projects should include estimated emission reductions and timelines.
- ***Corporate Governance of Climate Change***—A description of the company's corporate governance actions, including whether the Board has been engaged on climate change and the executives in charge of addressing climate risk. In addition, companies should disclose whether executive compensation is tied to meeting corporate climate objectives, and if so, a description of how they are linked.[83]

The SEC Guidance points out that companies' disclosure obligations are not limited to potential risks and costs of climate change but also extend to disclosure of opportunities. In the context of emissions management reporting, discussion of regulatory issues should address not only costs of compliance, but also any material business opportunities that climate change regulations present for companies—whether increased demand for emerging "green" technologies or products, comparative advantages presented by a firm's carbon-efficiency, or public demand for new services associated with changing weather patterns.

Recent SEC filings provide illustrations of the many kinds of opportunities that may warrant disclosure. **Duke Energy Corporation**, an electric power company, included in its 2009 10-K[84] a discussion of its pursuit of innovative approaches to manage its emissions: "[I]n addition to relying on new technologies to reduce its CO_2 emissions" to comply with state-level renewable energy mandates, the firm "is also making a significant commitment to increased customer energy efficiency and promoting enhanced use of renewable energy for meeting customers' electricity needs. Duke Energy's actions are designed to build a sustainable business that allows our customers and our shareholders to prosper in what is expected to be a carbon-constrained environment."

83 "Global Framework on Climate Risk Disclosure," supra note 4, at 6.
84 Duke Energy, Form 10-K (filed Feb. 26, 2010), www.sec.gov/Archives/edgar/data/1326160/000119312510043083/d10k.htm.

Other Key Elements of Strong Corporate Disclosure

Disclosure of corporate governance actions… should include a description of the board's and senior executives' actions and a description of whether executive compensation is tied to meeting climate change objectives.

The 10-K continued: "In addition to relying on new technologies to reduce its CO_2 emissions, Duke Energy has filed for regulatory approval in most of the states in which it operates for its energy efficiency programs, which will help meet customer electricity needs by increasing energy efficiency, thereby reducing demand instead of relying almost exclusively on new power plants to generate electricity. Duke Energy has received regulatory approval from Ohio, North Carolina and South Carolina and is in the process of rolling programs out in these states. Duke Energy received regulatory approval from Indiana and has withdrawn its filing in Kentucky."

However, Duke's 10-K disclosure could be improved by quantifying or indicating the expected financial impacts of its energy efficiency efforts. Only by reviewing the company's voluntary disclosure could investors learn that "Duke Energy is investing up to $1 billion over 5 years in smart grid technologies to fully realize our customer energy efficiency vision."[85] If significant investments like those by Duke rise to the level of material information, companies must disclose them in SEC filings, in addition to any voluntary disclosure they undertake.

As with disclosure of risks, specificity and financial data are more valuable than generalities. In its 2009 10-K,[86] chemical company **DuPont** explained that it is "expanding its offerings addressing… environment, energy and climate challenges in the global marketplace by developing and commercializing renewable, bio-based materials; advanced biofuels; energy-efficient technologies; …and alternative energy products and technologies. The goals are tied directly to business growth, including increasing food production, increasing renewable sources for energy and raw materials, and providing greater safety and protection for life, assets, and the environment." While this provides investors specific information about a seemingly wide range of initiatives related to climate change, the lack of quantitative information does not allow investors to assess the company's efforts against DuPont's own benchmarks or other firms' efforts.

Disclosure of corporate governance actions related to climate change should include a description of the board's and senior executives' actions and a description of whether executive compensation is tied to meeting climate change objectives. **National Grid**, an electricity and natural gas transmission company, provided helpful information on some of these topics in its 2009 20-F filing.[87] For example, it identified the board committee charged with addressing issues involving climate change:

> The Risk & Responsibility Committee… is responsible for reviewing the strategies, policies, targets and performance of the Company within its Framework for Responsible Business…. The Committee reviews the Company's non-financial risks for which it has oversight and in this regard the Committee interfaces with and works closely with the Audit Committee. Accordingly it reviews matters such as: safety, including public and process safety; the environment and climate change….

National Grid also discussed senior executives involved in climate change management, and specific actions the board took during the year to examine climate risk and other ESG issues such as health and safety.

85 Duke Energy Corporation, Response to Investor CDP 2010 Information Request, www.cdproject.net/Sites/2010/52/5052/Investor%20CDP%202010/Pages/DisclosureView.aspx.

86 E.I. du Pont de Nemours & Co., Form 10-K (filed Feb. 17, 2010), www.sec.gov/Archives/edgar/data/30554/000104746910000954/a2196441z10-k.htm.

87 National Grid PLC, Form 20-F (filed May 25, 2010), www.sec.gov/Archives/edgar/data/1004315/000095012310052651/y84347exv15w1.htm#217.

CONCLUSION

In the last decade, the need for companies to examine and disclose the implications of climate change and greenhouse gas regulation for their operations and financial condition has moved to the forefront of investor concern. As elaborated above, investors need to know how companies are responding to climate change and related regulatory developments, which can carry a range of significant financial risks and opportunities. The release of the SEC Guidance on climate disclosure marks an important recognition of that reality, and underlines that disclosure is a matter not only of sound corporate strategy and good investor relations, but, in many cases, a legal obligation.

Like the physical and regulatory changes related to climate change, its financial implications remain complex and rapidly-evolving. Although public companies' climate reporting has improved somewhat in recent years, it remains true that disclosures very often fail to satisfy investors' legitimate expectations. Insuring adequate disclosure will require commitment from management, as well as continued attention from regulators—and it will require that investors continue to make their needs heard. Greater attention to risks and opportunities will help companies themselves, and improved disclosure will help investors and the broader public.

11-POINT CHECKLIST: DEVELOPING A CLIMATE CHANGE STRATEGY & DISCLOSING RISKS & OPPORTUNITIES IN SEC FILINGS

The SEC Guidance constitutes a major step forward towards improving and beginning to standardize climate risk disclosure. It underlines that disclosure of material climate related risks and opportunities is required under current U.S. securities laws. The Guidance provides important and needed advice on how corporations should assess materiality and provide timely reporting to investors.

The Guidance, appropriately, does not provide advice about how companies can approach climate change as a strategic business issue. Here we provide some practical advice for companies: an 11-point approach to (1) identify and comprehensively address climate risks and opportunities throughout the enterprise and (2) satisfy their SEC disclosure obligations. For more detailed guidance on developing systems to address and disclose sustainability and climate change issues, companies should examine reports such as the *21st Century Corporation: The Ceres Roadmap to Sustainability*.[88]

I. Creating Governance Structures and Systems to Comprehensively Address Climate Issues

1. **Integrate consideration of climate risk and opportunity throughout the firm.** Climate change should be an important part of a company's overall sustainability strategy. Managers and employees specially charged with evaluating and addressing climate risk and dealing with climate change issues should consult regularly with all relevant components of the firm, usually including the legal, financial, environmental, risk management, operations and investor relations business units. Similarly, personnel responsible for preparing sustainability strategy and voluntary climate disclosures should be in close communication with those responsible for assessing financial risk and preparing and approving mandatory securities disclosures.

88 "21st Century Corporation: The Ceres Roadmap to Sustainability" ("Ceres Roadmap") provides more information on building systems related to climate change and other ESG issues, including information about governance for sustainability and stakeholder engagement, www.ceres.org/ceresroadmap.

2. **Create a climate management team.** For most firms, climate change presents a host of novel and rapidly developing issues. Responding effectively to these challenges requires having a team in place that has the expertise and specific mission to recognize and address how climate change presents business risks and also provides opportunities. Having dedicated teams at the senior management level is critical for ensuring that climate change is taken seriously at the top and integrated throughout the company's operations. Finally, to ensure management accountability, key performance indicators should be a component of the evaluation of senior executive performance and compensation packages.[89]

3. **Create a board oversight committee.** Proper board oversight is important because climate change issues, in addition to being managerial and operational matters, affect corporate strategy, reputation and capital investments, which are important concerns for boards.[90] Companies should designate a committee of the board to assume specific responsibility for climate change oversight within their charters. Companies should establish a dedicated climate committee or expand the role of an existing committee to include climate issues.[91]

4. **Develop internal controls and procedures for gathering GHG emissions data and other climate change-related information.** Systems, processes and controls to gather reliable information on firm emissions, physical risks, enacted and proposed regulations, and climate-related initiatives will determine the quality of management analysis, decision-making and disclosure to investors. For many companies, these systems are essential, because the process of gathering emissions data poses complex questions related to setting organizational and operations boundaries, tracking emissions over time, managing inventory quality and other issues.

II. Recording Emissions and Calculating Emissions Trends

5. **Measure, benchmark, and inventory current GHG emissions from operations, electricity use, and products.** As stated in the Global Framework on Climate Risk Disclosure, calculating emissions is an "important first step in addressing climate risk."[92] Whether or not greenhouse gas emissions are material and subject to mandatory disclosure under the securities laws will depend upon the magnitude of a company's emissions weighed against the content of existing or proposed regulations. But a firm cannot identify the potential impact of regulations without knowing what its emissions are. As the SEC Guidance explains, management "should ensure that it has sufficient information regarding the registrant's greenhouse gas emissions and other operational matters to evaluate the likelihood of a material effect arising" from enacted or proposed legislation or regulations.[93]

6. **Calculate projected and past emissions.** The Global Framework notes that analysis of past emissions, where feasible, and projected, future GHG emissions is necessary for a firm to understand its emissions trends and assess future regulatory or competitiveness risks. Such information helps to put disclosures concerning current emissions in context for investors.

89 See, e.g., id. at 19.

90 See, e.g., Calvert Asset Management Company & The Corporate Library, "Board Oversight of Environmental and Social Issues: An Analysis of Current North American Practice," at 8 (Sept. 2010). The study found that "while a substantial number of large-cap North American firms have adopted some form of board oversight for sustainability, many companies—even those which espouse a commitment to environmental and social matters in public statements or reports—have yet to embrace the practice. In addition, even where it has begun, board responsibility for corporate responsibility often does not extend to true strategic planning and risk management." Id.; see also Chartered Accountants of Canada, "Climate Change Briefing: Question for Directors to Ask" (2009).

91 See "Ceres Roadmap," supra note 88, at 17 (recommending that "[b]oard committee charters should spell out specific sustainability-related responsibilities and accountability structures, including the responsibility to oversee the content and effectiveness of policies, to review the company's sustainability targets, strategy and performance, and to review the adequacy of the company's transparency on that performance").

92 "Global Framework," supra note 4, at 5.

93 SEC Guidance, 75 Fed. Reg. at 6296 n.71; see also id. at 6295 n.62.

7. **Create specific emissions reduction targets and regularly report on progress.** For many companies, setting goals for reducing greenhouse gas emissions is invaluable for focusing the firm's energies on achieving greater energy efficiency. Setting goals also sends an important signal to investors and other stakeholders that a firm is committed to addressing climate change. Goal setting is especially valuable to investors when specific GHG emissions reduction targets and deadlines are set, and when reliable and transparent mechanisms are put in place, such as verification by third party auditors, that allow the firm and its investors to track progress toward achieving such goals.

III. Identifying and Analyzing Risks and Opportunities Arising From Climate Change

8. **Identify risks and opportunities; then assess materiality.** The heart of effective disclosure in SEC filings is management's systematic analysis of potential risks and opportunities relating to climate change, and its exercise of judgment on which risks and opportunities are material and therefore require disclosure. Doing this effectively—and providing investors the information they seek—requires expanded forms of collaboration between the investor relations, legal, corporate social responsibility and environmental, health and safety teams. The materiality of risks or opportunities ultimately depends upon a careful, contextual examination of the particular risk or opportunity and its significance for the registrant.

   Consideration of climate risks and opportunities requires a broad review of the numerous ways in which climate factors may materially affect the company operations and financial prospects—including energy use, supply chain, transportation and logistics, markets for products and services.

   Climate-related risks and opportunities can be classified in several broad categories:

   - **Physical risks.** Identifying physical risks requires an understanding of the varied ways in which climate change can affect the environment and a company's operations—from the effect of increased temperatures on air conditioning or equipment cooling, to increased risk of strong storms, to effects on water availability or quality. Companies should assess physical climate risks by examining how changes in climate affect the business and its operations, including its supply chain.

   - **Financing and underwriting risks and opportunities.** Climate change imposes an increased risk of harm to companies that finance, insure, reinsure, or indemnify against losses to properties or operations. For example, coastal properties or industrial facilities may face new or increased risks from intensified storms, but also new opportunities in the form of increased demand for insurance products.

   - **Regulatory risks and opportunities.** Firms should identify existing regulations that affect their financial position and operations, as well as proposed measures that are reasonably likely to be enacted. Because regulations that affect a company's operations may be adopted at all levels of government, assessing regulatory risk requires a thorough and ongoing review of the legal landscape. Companies should be aware of developments at the international, national, state and municipal levels, as well as the regional entities that are working to reduce emissions.

Once the relevant regulatory measures are identified, companies need to inquire how they would affect the company's financial condition and results of operations—e.g., are regulatory compliance costs likely to increase or decrease with time? As noted, the SEC Guidance contains specific advice on how companies should decide what to disclose regarding proposed regulations when their enactment into law is uncertain.

For some companies, enacted or proposed statutes or regulations may provide important opportunities—e.g., a state's enactment of a renewable portfolio standard may provide a competitive advantage to a company that sells electricity generated from renewable resources; a new energy efficiency tax credit may provide opportunities for firms offering weatherization services or products.

- **Litigation risks.** Litigation relating to climate change that may materially affect a company's financial position must be disclosed under certain SEC regulations, like any other form of litigation. The SEC's regulations (Item 103 of Regulation S-K) contain specific quantitative benchmarks for determining whether particular litigation must be disclosed, but management should independently assess the materiality of pending court or administrative proceedings.
- **Indirect risks and opportunities.** Even when a company is not directly subject to greenhouse gas regulations or affected by physical risks, climate change can affect a company's financial position in many ways, such as increasing the costs of energy or by changing patterns of consumer demand. As the SEC Guidance explains, risks and opportunities may arise from a wide variety of developments that can affect demand for goods and services or increase competition. Management should consider whether, in light of known trends associated with climate change, climate change is likely to cause the company to gain or lose market share, and whether it is situated to enter emerging climate change-related markets. Material risks and opportunities related to this should be disclosed.
- **Reputational risks.** Public perceptions about climate change can be an important factor in stakeholders' opinions of companies, and demand for particular products. Companies should review the effect of their operations and policy positions concerning climate change on public perception of their business as a whole and on the perception of their products and services. Companies should also consider the public perception of their industrial sector in general and how that perception may affect their reputation as a company or create an implicit requirement to act. Where such effects may be material, they should be disclosed, along with management's analysis of how it plans to address these reputational issues.
- **Emissions.** Companies' GHG emissions profiles are critical factors in their climate risk strategies, and companies that calculate their GHG emissions should include emissions data in their SEC filings. Disclosure of quantitative GHG emissions is especially important to investors because it provides concrete and specific information that allows for valid comparisons among firms. Data focused on wholly owned or equity share operations, and including geographic breakdowns, is also useful to investors.[94]

94 See CCRF, supra note 68, at 22-26. The Framework's "approach to organizational boundary setting aligns to boundaries used for financial reporting purposes so that GHG emissions are reported for the same entities as those for which financial statements are produced." See id. at 23-24 for more information. Regarding a geographical breakdown of emissions, the CCRF recommends, "Where it is likely to aid understanding, GHG emissions results should be broken down by … [t]he main countries or regions in which the organization operates…." Id. at 26.

IV. Disclosing Climate Risks and Opportunities in SEC Filings

9. **Quantify emissions, risks and opportunities whenever possible.** Quantitative information concerning climate risk is helpful to investors and allows for comparisons among firms. Whenever specific numbers are reasonably attainable, they are preferred over general statements. For forward-looking disclosure for operations in regions where a carbon price is in place or anticipated, carbon price assumptions should be stated.

10. **Be specific: Provide a particularized discussion of climate risks and opportunities with respect to specific company assets and operations.** The risks that climate change may pose for companies—whether financial or physical, direct or indirect—are dependent upon a firm's particular line of business and the geographic location of its facilities; these risks cannot be adequately analyzed and disclosed in an abstract or generic manner. Climate change may affect a single company in different ways: For example, many energy firms have investments in both fossil fuel-based generation facilities with high greenhouse case emissions and technologies such as wind and solar generation facilities with no or relatively low greenhouse gas emissions. Such firms may face risks as well as opportunities from a regulatory regime disfavoring high-emissions operations or from consumer attitudes favoring renewable energy. Investors interested in how firms will fare in a transitioning to a carbon-constrained world will want particularized disclosure of both risks and opportunities, so companies should avoid generic "boilerplate" disclosure. Investors will also want to hear management's explanation of its strategic approach with specific reference to its discrete operations.

11. **Consider investors' demands when assessing materiality.** The materiality standard that determines what information public companies must disclose ultimately turns on the needs of the reasonable investor. With climate risk disclosure, as with other matters, investors' perspective should inform management's judgments about which information to disclose. This requires an understanding of the evolving disclosure landscape, including recent, broadly supported statements of investors' needs,[95] shareholder resolutions, and recent corporate-investor dialogues. It is also important for management to be mindful of voluntary climate change disclosure standards,[96] frameworks developed by standard setting bodies[97] and standards set by foreign securities regulators.[98] Materiality judgments ultimately depend upon the particular facts and circumstances, but investors' strongly and repeatedly stated demands for thorough disclosure of information on climate risks and opportunities demonstrate that climate risk is now a major concern of the "reasonable investor" who is the measure of disclosure obligations under the securities laws.

95 Leading statements of investors' needs include the Global Framework for Climate Risk Disclosure and the CDSB's Climate Change Reporting Framework.

96 For example, companies should review the Global Reporting Initiative's Sustainability Reporting Framework as well as the Carbon Disclosure Project's annual questionnaire. In the electric power, oil and gas and transportation sectors, firms should review disclosure frameworks developed jointly by IIGCC, Ceres and IGCC Australia/New Zealand. In the insurance sector, firms should review the National Association of Insurance Commissioners' Insurer Climate Risk Disclosure Survey.

97 See ASTM standard E2718 – 10, Standard Guide for Financial Disclosures Attributed to Climate Change.

98 See Canadian Securities Administrators, Staff Notice 51-333, supra note 66 (covering climate change and additional environmental issues).

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ABOUT CERES

Ceres is a national coalition of investors, environmental groups, and other public interest organizations working with companies to address sustainability challenges such as climate change. Ceres directs the Investor Network on Climate Risk, a group of 95 institutional investors with assets exceeding $9 trillion, by identifying the financial opportunities and risks in climate change and by tackling the policy and governance issues that impede investor progress toward more sustainable capital markets. For more information, please visit www.ceres.org and www.incr.com.

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