



Climate Risk Disclosure by the S&P 500

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CARBON DISCLOSURE PROJECT

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Ceres and Calvert commissioned this analysis from David Gardiner & Associates.



Ceres and Calvert commissioned this analysis of the CDP4 responses of the S&P 500
from David Gardiner & Associates.

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 also directs the Investor Network on Climate Risk, a group of more than 50 institutional investors managing \$3.7 trillion in assets. Ceres published a 2006 report, *Corporate Governance and Climate Change: Making the Connection*, that evaluates and ranks 100 leading global companies on their climate governance practices.

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Preface: How Climate Change Affects S&P 500 Companies

Climate change will have far-reaching impacts on U.S. companies. More extreme-weather events, regulations to curb greenhouse gas emissions, and growing global demand for climate-friendly technologies are just a few of the ways that climate change will ripple through nearly every business in the United States. No sector is immune to these impacts.

Investors have long recognized that companies with significant greenhouse gas (GHG) emissions and energy-intensive operations face risks from emerging climate regulations. As a result, a growing number of investors in the \$3.7 trillion Investor Network on Climate Risk have been pressing electric power, oil and other energy-intensive businesses to improve their analysis and disclosure of climate-related risks. Dozens of shareholder resolutions requesting climate risk reports are now being filed with companies each year.

But lower-emitting sectors and companies also face potential risks from new regulations, physical changes, and other climate-related impacts. Just as power and oil companies are improving their climate disclosure, retailers, banks and telecommunication companies should also provide shareholders with more analysis and disclosure on climate risks and corporate strategies for managing or mitigating those risks.

Hurricanes Katrina and Rita, the most powerful and damaging hurricanes in U.S. history, are a dramatic example of the sweeping impacts that extreme weather and climate change will have on broad sectors of the economy. Insurance and oil company losses from last year's devastating hurricanes are widely known. Insurers were hit with \$45 billion of insured losses from Katrina alone, while oil companies lost billions from damage and prolonged outages to refineries and production facilities.

But retailers, telecom companies, utilities and banks also took financial hits from the hurricanes. JP Morgan Chase reported a \$400 million special provision related to hurricanes in third quarter 2005. BellSouth suffered more than \$100 million of losses from hurricane-related damage. Coca-Cola, Target, McDonalds and Carnival were also hit with losses. All told, nearly half of the largest 100 companies in the S&P 500 reported measurable impacts for Katrina and Rita-related losses in 2005.

And that is just from hurricanes, mainly in just one year (2005). Climate change is expected to increase the severity of future hurricanes, as scientific evidence indicates that ocean warming is increasing their intensity. In fact, the energy released by the average hurricane has risen by about 70 percent in the past three decades¹, just as sea surface temperatures have increased during the same period. Scientists say warming temperatures are also contributing to record heat waves and more damaging wildfires and hailstorms across the U.S. All told, there have been 67 U.S. weather disasters since 1980 that each caused at least \$1 billion worth of damage, including droughts, fires, tornadoes, heat waves and floods. These 67 events cost over \$500 billion, normalized to 2002 dollars².

International, national, and state regulations will have a similar rippling effect, as companies will come under increasing pressure to improve their energy efficiency, switch fuels, or invest in emission controls. While momentum for mandatory federal climate legislation is growing, California and seven Northeastern states

1. Kerry Emanuel, "Anthropogenic Effects on Tropical Cyclone Activity," MIT, January 2006, <http://wind.mit.edu/~emanuel/anthro2.htm>

2. NOAA's National Climatic Data Center, "1980–2005 Billion Dollar U.S. Weather Disasters." www.ncdc.noaa.gov/oa/reports/billionz.html

have already taken regulatory action to require emission reductions. Meanwhile, almost all of Europe is pushing to reduce GHG emissions under an ambitious cap-and-trade carbon emissions trading program already valued at about \$30 billion a year. All companies—including retailers, banks and utilities—will be affected by these regulations. Understanding how individual companies and industries are incorporating these regulations into capital investment decisions and strategic planning is increasingly critical to a complete understanding of a company's health and financial value.

In response to these growing trends, Ceres and Calvert commissioned this report analyzing climate risk disclosure practices among the nation's S&P 500 companies. The analysis was based on company responses to a questionnaire sent to companies in February 2006 by the Carbon Disclosure Project, a coordinated effort by global investors to obtain more information relating to the corporate management of climate change. The responses were evaluated against the Global Framework for Climate Risk Disclosure, a new statement of the information investors expect from companies on their climate change risks.

The report's overwhelming conclusion is that disclosure practices among the nation's 500 largest companies are severely lacking. Less than half of S&P 500 companies responded, and the response received fell far short of the standards set by the Global Framework. Nearly a third of the responders, in fact, declined to share their answers with all investors, designating their responses as "confidential."

The poor response among lower-emitting companies—in particular, retailers, banks, and insurers—was especially conspicuous. Many companies in these sectors provide insufficient climate disclosure to investors. Allstate, for example, did not respond to the CDP questionnaire, yet in a 10-Q filing it reported estimated losses of \$3.68 billion in third quarter 2005 from Hurricane Katrina. Other insurance companies, such as MetLife, and other retail companies, such as CVS, felt the financial impacts from climate change yet did not respond to the questionnaire.

In the face of these widespread climate impacts, all companies should prepare, at a minimum, by gaining a better understanding of the risks and opportunities from climate change. In particular, companies need to examine the physical and weather impacts from climate change, regulatory changes that may affect energy prices, and reputational and competitive risks that may affect companies that lag their peers in understanding and managing the impacts of this issue.

In addition to assessing these risks, companies should disclose their climate risk to investors using the three most important disclosure mechanisms: securities filings, sustainability reports using the Global Reporting Initiative (GRI) guidelines, and CDP responses. Companies should also engage with investors and governments to address climate risks and opportunities. This kind of engagement with investors is critical to developing an effective, tangible response to climate change before further dangerous warming occurs.

While 'Wall Street time' usually is measured month-to-month and quarter-to-quarter, many of the world's largest investors are looking at both the short- and long-term financial implications from climate change. Companies should see this as a signal that they, too, should elevate climate change as a corporate priority and communicate openly with investors about their strategies and responses.

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Executive Summary

Given the sweeping nature of climate change, climate risk is embedded in every business and investment portfolio. Companies with significant greenhouse gas emissions or energy-intensive operations face financial risks from litigation and regulation, or the possibility of regulation, to reduce the pollution that causes global warming. Climate change also poses direct physical risks to a wide array of firms and industries. With these risks, however, comes opportunity. Companies in many sectors can increase their profitability by implementing energy efficiency strategies and developing emission-reducing technologies and products whose value is enhanced by global efforts to reduce greenhouse gas emissions.

For all of these reasons, a growing number of institutional investors, many of them part of the \$3.7 trillion Investor Network on Climate Risk (INCR), are asking for deeper analysis and disclosure from U.S. companies on the risks and opportunities they face from climate change. Investors are filing dozens of shareholder resolutions with U.S. companies each year requesting climate risk disclosure reports. In October 2006, a group of 14 leading institutional investors and other organizations also finalized the Global Framework for Climate Risk Disclosure, which spells out the four key components needed by investors to assess corporate climate risk and opportunities in portfolios (greenhouse gas emissions data, corporate governance of climate risk, physical impact analysis, and a regulatory scenario analysis).

This report by Ceres and Calvert analyzes the breadth and quality of the information that S&P 500 companies disclose to investors on climate-related risks and opportunities. The analysis is based on company responses³ to a questionnaire sent to the S&P 500 in February 2006 by the Carbon Disclosure Project⁴, a coordinated effort by 225 global investors to obtain more information relating to climate change. A total of 228 companies⁵—47 percent of the 500 companies surveyed—responded to the 2006 CDP questionnaire. The responses were evaluated relative to the Global Framework for Climate Risk Disclosure, a statement of investors' expectations for corporate disclosure.

Among the key findings of the report:

- **Poor Response Compared to Overseas Companies:** U.S. companies lag well behind their foreign competitors in climate risk disclosure. Only 47 percent of the S&P 500 companies answered the CDP questionnaire, as opposed to 72 percent among the FT 500. The companies who are likely to have received the questionnaire in past years had a higher response rate—67 percent—than the companies that received the questionnaire for the first time in 2006, 31 percent of which responded. Low response rates among U.S. companies make company-to-company comparisons—both domestically and globally—very difficult for investors evaluating climate risk.
- **Ignoring Investors' Right to Know:** Seventy companies that responded to the questionnaire—nearly a third of the respondents—did not allow their responses to be made public. As a result, only the 225 signatories to the CDP have access to those responses. Given that climate change poses risks to *all* investors, it would be greatly preferable for companies to make their disclosures public.

3. Individual responses to the CDP 2006 information request can be downloaded at the CDP website: www.cdproject.net.

4. In cooperation with Ceres' Investor Network on Climate Risk (INCR)

5. As of October 16, 2006, the number of responding companies has increased to 233. However, only the 228 companies that had responded at the time of the analysis are included in this report.

- **Poor GHG Emissions Management:** Eighty percent of the companies that responded (182 companies) addressed the need to reduce greenhouse gas emissions, but only a quarter (59 companies) disclosed measurable emissions reductions targets and specific time frames for reduction.
- **Physical Impacts Not on Radar Screen:** Nearly 75 percent of the responding companies (171 companies) acknowledged bottom-line risks associated with extreme weather events such as hurricanes, fires and floods. However, very few companies link more extreme weather to climate change and fewer still—only four percent—disclosed strategies for mitigating and adapting to the growing physical impacts from climate change.
- **Healthcare, Banks, Telecoms, and Others Ignoring Climate Change:** Companies in the highest greenhouse gas emitting sectors such as the electric power and oil industries showed the highest quality disclosure, while most companies in sectors with lower emissions, such as health-care, retailers, and banks, have been largely unresponsive to the financial risks they face from climate change.
- **Responses Inadequate Relative to the Global Framework:** When compared with the Global Framework for Climate Risk Disclosure, S&P 500 companies that responded to the questionnaire provided only about one quarter of the information investors are looking for. Companies provided more information about qualitative measures such as corporate governance than they did about quantitative measures such as emission reduction goals or the impact of regulations that would impose a cost of carbon.

All S&P 500 companies face varying risks from climate change and many are presented with significant revenue opportunities as well. Investors have stated that all companies should be disclosing such risks and opportunities—as well as plans for addressing them—to stakeholders through securities filings, sustainability reports, and by responding to the CDP questionnaires.

In doing so, companies should look at the four components of the Global Framework to make sure their responses are adequately divulging emissions data, corporate governance of climate risk and opportunities, physical risks, and regulatory risks.

Disclosure of emissions, risks and opportunities is only one step toward thoughtful management of climate variables, but it is the *essential first step*—the ignition switch in the engine of climate mitigation and adaptation.

1. Methods

In February 2006, Ceres and the Carbon Disclosure Project (CDP) sent the fourth CDP questionnaire (“CDP4” or “questionnaire”) to the entire S&P 500. Three hundred of the companies had never received the questionnaire before⁶.

Forty-seven percent of the S&P 500 (228 companies) responded, and their disclosures were analyzed for this report using the Global Framework for Climate Risk Disclosure (“the Framework” or “the Global Framework”), as described below and in Appendix A.

1.1 The Global Framework for Climate Risk Disclosure

At a 2005 climate risk summit organized by Ceres at the United Nations in New York City, the Investor Network for Climate Risk (INCR), representing \$3.7 trillion under management, launched a 10-point action plan for addressing climate change. As part of that plan, INCR members pledged to adopt a reliable and generally accepted global standard for disclosure of climate risk. (See Figure 1)

To fulfill this goal, the Global Framework for Climate Risk Disclosure was developed by a group of 14 leading institutional investors and other groups from around the world to encourage standardized climate risk disclosure and to make it easy for companies to provide this information and for investors to analyze and compare companies. It was publicly released in October 2006.

Because the Framework is a clear representation of investors’ specific needs for corporate climate disclosure, it was used to analyze the S&P 500 companies’ responses to the CDP4.

The Framework consists of four elements of disclosure⁷:

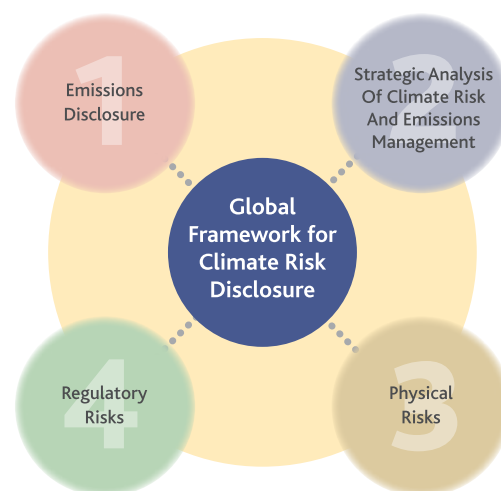
- *Disclosure of total historical, current, and projected greenhouse gas emissions*
- *Strategic analysis of climate risk and emissions management*
- *Assessment of physical risks of climate change*
- *Analysis of risk related to the regulation of greenhouse gas emissions*

Since the Global Framework was not publicly released when companies responded to the questionnaire, it is important to note that a portion of this analysis covers information that is part of the Framework but is not part of the questionnaire. For this reason, the Global Framework questions were used only as a *guide* to assessing responses. Like all benchmarks, the Framework will evolve as knowledge expands about the impacts of climate change and the roles of business in mitigation and adaptation to climate

6. Any company that is a member of both the S&P 500 and the FT500 is likely to have received the CDP questionnaire in past years. At the time of this analysis, only 200 of the S&P 500 companies were also members of the FT 500.

7. See Appendix A to view the complete Framework.

Figure 1: Global Framework for Climate Risk Disclosure



change. The 2007 questionnaire, which will be released in February, has been improved to capture more relevant data for investors on climate change and is closely aligned with the Framework.

The Global Framework adds a significant level of detail to the ten questions asked in the CDP4 questionnaire. The focus of this analysis is to gather information regarding *quality of disclosure* of the S&P 500 companies as demonstrated through their CDP responses. As such, this analysis describes whether and how well companies *disclose* exposure to climate risks and opportunities, but does not attempt to assess a company's complete climate change *risk exposure* and *preparedness*, nor does it describe whether and how well companies are changing their business practices in the face of climate change's risks and opportunities.

This analysis measures how a company's answers to the questionnaire compared with the level of disclosure expected by investors as articulated in the Framework. This report describes companies' responses by a percentage of information provided. For example, Entergy had the most complete disclosure, providing 64 percent of the information investors are looking for.

1.2 Sector and Industry Breakdown

This report is focused on 11 industries that are highly vulnerable to climate change, although data from all Russell sectors and industries was collected in the analysis of the questionnaire responses. In addition, low response rates in several industries led to very small sample sets, which could not be analyzed.

Table 1: Sectors And Industries Examined In This Report

RUSSELL SECTORS	11 KEY INDUSTRIES
Auto & Transport	Automobiles
Consumer Discretionary	Banks
Consumer Staples	Chemicals
Financial Services	Drugs and Pharmaceuticals
Healthcare	Electric Utilities
Integrated Oils	Healthcare Management Services
Other Energy	Insurance Multi-line
Other (Multi-Sector Companies)	Integrated Oils
Materials & Processing	Multi-sector Companies
Producer Durables	Retail
Technology	Telecommunications Utilities
Utilities	

Russell categorizes companies into 12 broad sectors, and sub-categorizes into 144 more specific industries. This report focuses on 11 industries highly vulnerable to climate change, either through regulation of GHG emissions or physical risks from climate change.

For example, 54 industries were represented by fewer than three responding companies. Twenty-six industries had three or more CDP responders, while only three industries—electric utilities, banks, and drugs & pharmaceuticals—showed double-digit representation by responding companies.

Most industries examined in this report included responses from four or more companies, and 11 industries were selected from that group on account of their high climate risk exposure. An exception to this selection method is the auto industry, which is composed of two companies, both of which responded to the questionnaire.

Box 1: The Investor Network on Climate Risk (INCR)

Background—Investor Summits & Action Plans

The Investor Network on Climate Risk (INCR) was formally launched in November 2003 at the Institutional Investor Summit on Climate Risk at the United Nations in New York.

Coordinated by Ceres, INCR now includes more than 50 investment organizations that collectively manage \$3.7 trillion in assets. INCR membership is open to plan sponsors, pension funds, treasurers, comptrollers, labor unions, foundations, endowments, religious funds, asset managers, and other financial services firms.

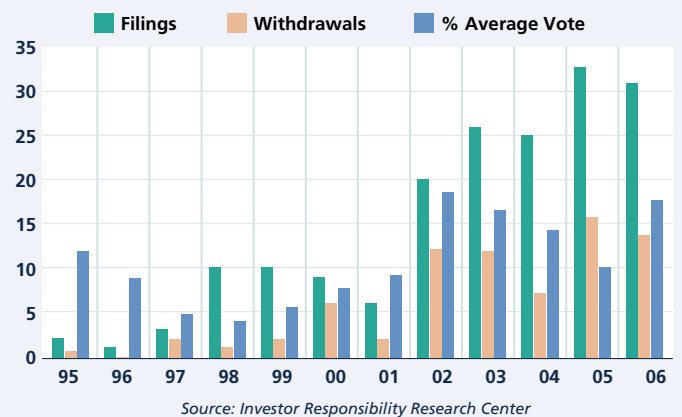
In 2005, INCR members organized a second investor summit at the UN that attracted 500 corporate, financial, and investor leaders from 14 countries. At this groundbreaking meeting, 28 American and European investors approved a 10-point action plan seeking greater analysis, disclosure, and action on climate change from companies, Wall Street firms, and regulators. Many of the points in that action plan have already been implemented, including (1) INCR members investing more than \$1 billion in clean technologies, and (2) the October 2006 release of the Global Framework for Climate Risk Disclosure, which was designed to improve disclosure on the financial risks that businesses face from climate change.

INCR Engagements with Companies—Resolutions & Dialogues

INCR members have taken significant actions to improve corporate climate disclosure and response since INCR's founding in 2003. In 2006, as a result of engagements with INCR investors, several large companies—including Alliant Energy, Anadarko Petroleum, Chubb, Devon Energy, Great Plains Energy, The Home Depot, Liberty Property, Lowe's, MGE Energy, Peabody Energy, Simon Property Group, Unocal, and WPS Resources—made new corporate commitments to further disclose climate risk information to investors.

INCR members also filed 31 shareholder resolutions with companies in 2006. Some of these garnered strong support,

including 39% at Standard Pacific, 28.6% at Bed Bath & Beyond, 22.5% at Dominion Resources, and 22.4% at Ultra Petroleum. Several other resolutions were withdrawn in response to new corporate commitments. For instance, a shareholder resolution seeking greater analysis and disclosure from Peabody Energy about the financial impacts posed by global climate change, including foreseeable greenhouse gas emission limits



on U.S. power plants, was withdrawn after the company agreed to prepare a sustainability report including an analysis of climate risk.

Similarly, resolutions introduced by shareholders at four Midwest electric power companies—Great Plains Energy Inc. in Kansas City, MO; Alliant Energy in Madison, WI; WPS Resources in Green Bay, WI; and MGE Energy in Madison, WI—were withdrawn after the companies agreed to prepare the requested climate risk reports assessing and disclosing “the regulatory, competitive and reputational pressures” from potential greenhouse gas regulation and plans for mitigating these potential risks at existing and proposed power plants. These companies join more than a dozen other U.S. electric power companies (*continues*)

that have published or agreed to publish climate reports the past two years. Investors have achieved similar disclosure, action, and dialogue from resolution withdrawals in the oil & gas sector (e.g., Devon Energy, Anadarko Petroleum), the building sector (e.g., The Home Depot, Lowe's, Simon Property Group, Liberty Property), and the insurance sector (e.g., Chubb Group).

Continued dialogue between companies and INCR members has helped certain companies become leaders on climate policy. In 2006, for instance, insurance giant AIG became the first U.S.-based insurance company to adopt a climate change strategy, and the AIG Global Investment Group joined INCR. AIG's new strategy to manage the risks and capture the business opportunities posed by climate change states that the company is "actively seeking to incorporate environmental and climate change considerations across its businesses, focusing on the development of products and services to help AIG and its clients respond to the worldwide drive to cut greenhouse gas emissions."

INCR's Broader Approach—Sector-wide Outreach, SEC Dialogue, & Multi-sector Disclosure

In the last several years, INCR members have increasingly taken a wholesale approach to climate disclosure, recognizing that the climate change threat requires a broader and more rapid corporate response than is achievable solely by engaging with individual companies.

INCR members have sent letters to key industries, including letters to 30 insurance companies, companies in the Alliance of Automobile Manufacturers, and the 50 largest U.S. electric power companies. These letters represented investors managing \$1 trillion and have helped encourage more companies to begin

addressing their climate risks.

In addition, INCR members have advocated for clear guidance from the Securities and Exchange Commission to all companies about the importance of including adequate climate risk disclosure in securities filings. Thirteen INCR investors wrote to SEC Chairman William Donaldson in April 2004, calling on the SEC to:

- enforce requirements mandating disclosure of material risks, to ensure inclusion of underreported risks such as climate change;
- strengthen current disclosure requirements by providing interpretive guidance on the materiality of risks posed by climate change; and
- require companies to include in their proxy statements all shareholder proposals asking companies to report on financial risks from climate change.

Twenty-eight INCR members reiterated these requests in a June 2006 in a letter to SEC Chairman Christopher Cox. Many of these investors met with SEC Commissioner Roel Campos in September 2006 to discuss climate risk disclosure.

In the absence of meaningful federal government or SEC action to improve corporate climate disclosure, INCR members have increasingly supported requests for voluntary disclosure by companies. Twenty-one INCR members were signatories to the 2006 Carbon Disclosure Project information request, and many of these investors are now filing follow-up shareholder resolutions with those S&P 500 companies that ignored the questionnaire. This focus on the entire S&P 500 reflects INCR members' concerns about the physical, regulatory, legal, reputational, and competitiveness risks and opportunities that numerous industry sectors and companies face due to climate change.

2. Overview of Responses

2.1 Response Rates

Forty-seven percent of S&P 500 companies answered the CDP4 questionnaire⁸. In addition to these responses, 10 percent of S&P 500 companies provided some information, such as environmental statements or web links to sustainability reports, although they did not answer the questionnaire. Thirty-six percent gave no response, and 7 percent formally declined to participate (see Appendix D for a full list of companies).

In comparison to their global peers, fewer U.S. companies responded to the questionnaire.⁹ Two-hundred S&P 500 companies are also indexed in the FT 500, most of which are likely to have received the questionnaire in the past four years; whereas the remaining 300 S&P 500 companies are not in the FT 500 and therefore are likely to have received the questionnaire for the first time in 2006¹⁰. In every instance, U.S. companies' response rates were lower than global peers.

Unfortunately, 70 companies (about 30 percent of respondents) declined permission to publicly disclose their responses. On average, these companies provided poorer climate risk disclosure than other companies in the S&P 500¹¹.

2.2 Sector Responses

On average, companies provided only 25 percent of the information investors have specified in the Global Framework for Climate Risk Disclosure (see Figure 3). However, there was significant dispersion in the level of disclosure among the 228 companies evaluated, ranging from 0 to 64 percent of the information in the Framework. Only 11 companies disclosed more than half of the information specified in the Global Framework. At the high end, Entergy had the most complete disclosure, providing 64 percent of the information. At the opposite end of the spectrum, however, low rates of disclosure were much more common. Forty-seven companies provided less than 10 percent of information in the Global Framework, while 78 companies provided between 30 and 50 percent.

Figure 2: CDP4 Response Rates, S&P 500

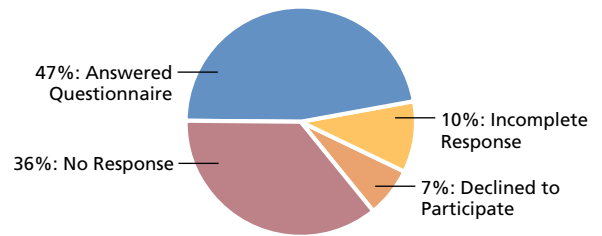
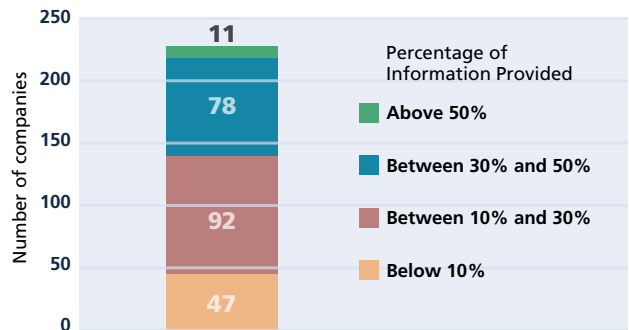


Table 2: U.S. vs. Global Response Rates

FT500 vs. S&P500 Response Rates	
FT500 responses	72%
S&P500 responses	47%
U.S. vs. Non-U.S. FT500 Response Rates	
Non-U.S. FT500 responses	76%
U.S. FT500	67%
First-Time Response Rates	
FT500 first-timers Companies receiving the CDP questionnaire for the first time ever (2002)	47%
S&P500 first-timers Companies receiving the CDP questionnaire for the first time ever (2006)	31%

Figure 3: Level of Disclosure by All Responding Companies



8. Two-hundred twenty-eight of the 233 responses were analyzed for this report, based on the timing of receipt of the response.

9. To compare U.S. company responses with those by other corporations worldwide, see www.cdproject.net. CDP and its partners produced twelve 2006 reports covering responses by the FT 500 and FTSE 350, as well as seven additional countries or regions.

10. Any company that is a member of both the S&P 500 and the FT500 is likely to have received past years' CDP questionnaire. However, the constituents of the FT 500 and the S&P 500 change annually, and this report does not analyze precisely which companies have received the questionnaire in past years.

11. Companies refusing to publicly disclose their responses provided 17 percent of information that investors requested, whereas companies that did publicly disclose gave 29 percent of the information.

Some sectors and industries responded significantly better than average. The sectors with the best disclosure were multi-sector companies, utilities (particularly electric and gas industries), integrated oils, materials & processing, and auto & transport (see Figure 4). These sectors are both energy- and resource-intensive, with relatively high greenhouse gas emissions. Many of these sectors may be significantly affected by potential GHG regulation, particularly if unprepared for such government action. Additionally, many of these companies have worked with various non-governmental organizations (NGOs) or institutional investors, whose engagement with companies has encouraged better understanding of climate risk and improved disclosure of climate risk and emissions data.

Figure 4: Level of Disclosure by Sector

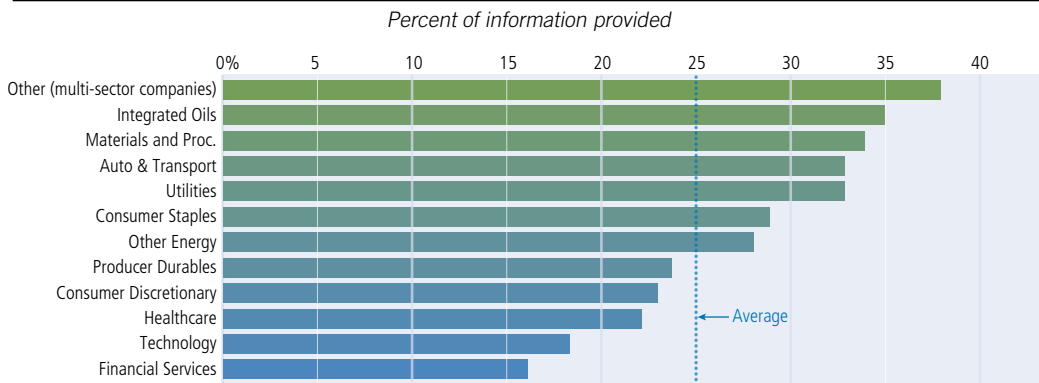
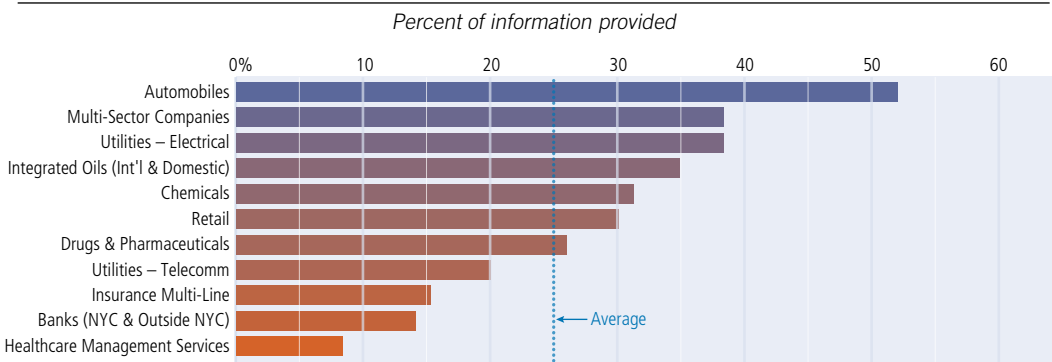


Figure 5: Level of Disclosure by Key Industry



Other sectors—especially those that are not high emitters—demonstrated below-average disclosure. While high emitters may face large regulatory and litigation risk, many of the sectors with poor disclosure face other types of climate risk, such as physical, reputational, or competitive risks (see Table 3 for examples). Poorly disclosing sectors and industries such as insurance, healthcare management services, financial services and telecommunications all face risks and opportunities from climate change, regardless of their emissions or energy intensity.

Table 3: Types of Climate Risk and Opportunity

Description	Risks	Opportunities	Comment/illustration
Regulation	✓	✓	Current and pending regulation creates both risks and opportunities. California and nine Northeastern states announced regulatory approaches to GHG emissions in 2005-2006. Companies which make efficient reduction in GHG emissions could profit by selling carbon credits or allowances. Carbon markets that will likely accompany most regulatory regimes provide opportunities for skilled traders, and possibly opportunities for hedging.
Litigation	✓		There has been a rise in litigation over GHG emissions in the United States, including lawsuits against several utilities for greenhouse gas emissions and a lawsuit against carmakers. Duke Energy is the defendant in a lawsuit alleging that its GHG emissions were partly responsible for hurricane damage of the Gulf hurricanes in 2004-2005.
Reputation	✓	✓	Many companies face reputational risk as a result of climate change, including both large emitters (utilities, oil companies, auto companies) and those that have been most publicly vocal in their skepticism about climate science. Several companies (including GE, Toyota, Ford and BP) have shown that there is also the possibility of reputational advantage in leading with climate-friendly, low-emissions solutions.
Physical Impacts	✓	✓	Nearly half of the S&P 100 reported significant financial impacts from hurricanes in 2004-2005. Modeling is underway to understand the probabilities associated with physical risks in many sectors. In two cases, the impacts were positive, for companies selling products necessary for rebuilding or reducing emissions.
Competition and Strategy	✓	✓	Particular value will accrue to products or services that lower energy use or emissions from energy production and consumption, carbon sequestration, and cleaner transport. Insurance products have begun to differentiate based on climate risk and governance or management of climate impacts.

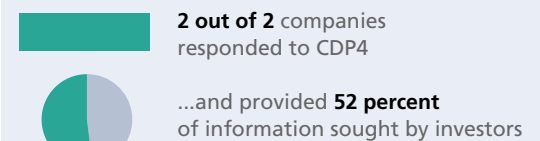
2.3 Key Industry Responses

Automobiles

Both American auto manufacturers provided above-average disclosure compared with the overall S&P 500. **Ford Motor Company** and **General Motors** disclosed about half of the information investors are looking for, over twice the norm. They disclosed the most information about emissions data and corporate management of risks and opportunities. For example, Ford stood out by providing emissions data from an average vehicle's tailpipe from the past seven years, as well as lifecycle CO₂ emissions data from the production of raw materials to the disposal of the vehicle. They performed less well when disclosing information about the impacts of climate change regulation on their competitiveness, and were particularly weak on disclosing measurable targets for reducing greenhouse gas emissions from products.

Ford's and GM's strong disclosures may reflect the companies' experiences with responding to investor concerns about emissions and climate change. The companies are familiar with the issues and disclose a relatively high level of information, but still fall short in some areas. For example, Ford points out that nearly "12 percent of all man-made GHG emissions worldwide come from burning fossil fuels in the cars and trucks of all makes on the road today." However, GM and Ford still fail to establish firm quantitative targets and timetables for emissions reduction.

INDUSTRY: Automobiles



Banks

The banking industry showed below average disclosure in response to the questionnaire. While this industry is not traditionally categorized as being high risk, investors are increasingly aware of the risks and opportunities that face U.S. banks. For example, investors are concerned about the viability of project finance loans to high-emitting sectors such as coal-fired power plants (for which a future cost of carbon may make the plants uncompetitive with natural gas counterparts) or oil/gas pipelines (for which melting permafrost in the arctic could cause significant infrastructure damage). Likewise, bank branches face physical risks as more frequent or extreme weather events affect their employees, operations, and customers in high-risk geographies.

At the same time, a few banks have been leaders in managing and disclosing climate risk and opportunities, thus raised the bar for their counterparts that show little interest in addressing the effects of climate change. **Bank of America** and one other bank (which declined public access to their questionnaire) provided the best disclosure in this industry, and laggards included **U.S. Bancorp** and several others that declined public access to their questionnaire. Bank of America provided high quality disclosure of corporate climate change policies and strategies for addressing climate risk and opportunities. Although it did not disclose emissions information, it has stated that it is currently in the process of compiling or verifying its detailed emissions data.

Chemicals

The chemicals industry provided about 31 percent of information investors are looking for, an above-average level of disclosure. Like other industries, the chemicals industry performed better in some areas than others: these companies fared best in disclosure of strategic analysis of risk and opportunities, emissions management, and emissions data, and provided weak disclosure of physical risk. Because of their past exposure to emissions regulations to control smog-forming and ozone-depleting substances, chemical companies may already have had environmental systems in place to measure and disclose greenhouse gas emissions data. Likewise, many of these companies already have environmental managers and governance systems in place.

Praxair, DuPont de Nemours & Company, Dow Chemical, and Air Products & Chemicals provided the highest levels of disclosure within this industry. However, even the leaders still had areas of disclosure that should be improved. For example, DuPont does not detail the risks—particularly regulatory and physical—that it faces from climate change, focusing solely on opportunities instead.

INDUSTRY: Banks



16 out of 26 companies responded to CDP4



...and provided **14 percent** of information sought by investors

INDUSTRY: Chemicals



8 out of 9 companies responded to CDP4



...and provided **32 percent** of information sought by investors

Electric Utilities

The electric utilities companies provided more information than any other industry except autos. Among the 22 companies that responded to the questionnaire (there were only 2 auto companies by comparison), only one electric utility provided disclosure below the average for S&P 500 responders (25 percent). Electric utilities offered significant information relating to strategic analysis of climate risk and emissions management, physical risk and regulatory scenario analysis, and provided above-average disclosure of emissions data. Considering the significant regulatory risks that may affect electric utilities, as well as the attention given to this industry from NGOs and SRI groups, it is not surprising that electric utilities had relatively strong disclosure.

In many instances, electric utility companies went beyond the explicit requests in the CDP questionnaire. **Entergy Corporation** provided exceptional disclosure overall. Entergy disclosed nearly 64 percent of information investors are looking for—the best disclosure of all S&P 500 companies responding to the questionnaire. In **American Electric Power's** response, the company provided a link to its stand-alone climate change report, which provided a detailed scenario analysis of the effects on the company of potential greenhouse gas regulations in the United States. In contrast, **TXU**—which also has a stand-alone climate report but whose response to the questionnaire was weaker than its peers—provided no quantitative analysis of the impacts of future carbon cap regulation on the company's 11 proposed coal-fired power plants.

Drugs and Pharmaceuticals

The drugs and pharmaceuticals industry still has a long way to go with regard to climate disclosure, especially given the potential impacts climate change may have on its business. Climate change may impose serious health effects on society, such as increased asthma rates and wider distribution of vector-borne disease, and the drugs and pharmaceuticals industry will need to be prepared to respond appropriately. The disclosure by this industry in the CDP4 illustrates that it may be unprepared to deal with this effect of climate change—an effect which, if strategies are adopted now, could be a significant business opportunity for the industry.

Drugs and pharmaceuticals companies furnished slightly above-average climate disclosure. These companies provided good disclosure of emissions data, average disclosure on strategic analysis of risks and opportunities, and poor disclosure of physical risk. **Johnson & Johnson**, **Schering-Plough Corporation**, **Allergan**, and **Pfizer** were the industry leaders, while laggards such as **Gilead Sciences** (and others that did not publicly release their response) disclosed virtually no information to investors.

INDUSTRY: Electric Utilities



22 out of 26 companies responded to CDP4



...and provided 39 percent of information sought by investors

INDUSTRY: Drugs and Pharmaceuticals



13 out of 19 companies responded to CDP4



...and provided 27 percent of information sought by investors

Healthcare Management Services

The healthcare management services industry provided poor disclosure to the questionnaire. The industry provided less than 9 percent of the information that investors call for in the Global Framework. In three of the four areas of the Framework—strategic analysis of risk and emissions management, physical risk, and regulatory scenario analysis—this industry performed worse than all other S&P 500 industries examined in this report. A Harvard Medical School report¹² details the potential effects climate change may have on human health, showing that both warming and extreme weather events are connected to the outbreak and spread of disease. As with the drugs and pharmaceutical industry, the healthcare management services industry must be prepared for the negative health impacts of climate change on society, since the consequences of inaction may prove a significant business risk to the companies within this industry.

INDUSTRY: Healthcare Management Services



4 out of 5 companies responded to CDP4

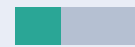


...and provided 9 percent of information sought by investors

Insurance Multi-line

The majority of responding S&P 500 insurance companies provided below-average responses to the questionnaire, disclosing about 16 percent of information investors are looking for. Most insurance companies stipulated that because their GHG emissions are low, climate risk does not apply to them. Even the small number of insurance companies that admitted that the industry may face risks from climate change gave little indication that action has been taken to address these risks.

INDUSTRY: Insurance Multi-Line



5 out of 14 companies responded to CDP4



...and provided 16 percent of information sought by investors

The insurance industry, particularly those involved in reinsurance or underwriting property and casualty, faces significant risk stemming from more catastrophic weather events resulting from climate change. For this reason, some insurance and reinsurance companies (predominantly in Europe, with a few in the United States as well) have begun to examine climate risk and work to manage its potential effects.

The sole exception to poor performance in this industry was the **American Insurance Group (AIG)**, which stood out by disclosing information on business risks and opportunities, corporate governance, and physical risks relating to climate change.

Integrated Oils

The domestic and international integrated oils industries disclosed roughly 35 percent of the information investors are looking for—ten percent more than the S&P 500 average. The integrated oils companies exhibited poor disclosure of physical risk, which is significant given the impacts of hurricanes on oil-rich areas in the Gulf of Mexico in 2005.

INDUSTRY: Integrated Oils



6 out of 7 companies responded to CDP4



...and provided 35 percent of information sought by investors

In this industry, **Chevron** and **ExxonMobil** provided the most disclosure in response to the questionnaire, whereas **ConocoPhillips** was the obvious laggard (although ConocoPhillips states it is in the process of compiling additional information, such as detailed emissions data). It is important to restate that the analysis detailed in this report focuses on *disclosure* practices, not the quality of the efforts that companies take with regard to climate change. ExxonMobil,

12. The Center for Health and the Global Environment, Harvard Medical School, *Climate Change Futures: Health, Ecological and Economic Dimensions* (2005).

along with its industry peers, showed an inclination towards disclosing opportunities rather than giving details of the risks from climate change, despite the fact that the industry faces significant regulatory, physical, competitive, and reputational risks.

Multi-Sector Companies

The CDP4 responders from the multi-sector companies industry include **3M**, **Johnson Controls**, **General Electric Corporation (GE)**, **ITT Industries**, and **Eaton Corporation**. The multi-sector companies gave very high levels of disclosure—nearly 40 percent of the information investors are looking for. With one exception, all of the companies in this industry disclosed considerably more information than the average S&P 500 company, particularly with regard to emissions data, strategic analysis of climate risk, and emissions management.

Johnson Controls led the multi-sector industry with highest level of disclosure, providing more information than any other S&P 500 company except Entergy. The company stated that it is “a global leader in providing energy efficiency products and services.” At the same time, Johnson Controls did not neglect to address risk, and it offered higher than average disclosure in its strategic analysis of the potential implications of climate change. **GE** also disclosed relatively high levels of information, highlighting the potential for success of its new products and technology in response to climate change. Overall, multi-sector companies showed a particular inclination towards disclosure of opportunities, possibly because much of their business is related to innovation.

Retail

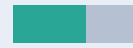
The retail industry provided about 30 percent of the information investors are seeking, an above-average performance for S&P 500 companies. Retail companies provided slightly above average disclosure of emissions data and regulatory analysis, and considerably better disclosure in the area of physical risk. Most retail companies explicitly linked climate change and physical risk, a connection the average S&P 500 responder failed to make.

Wal-Mart provided relatively good disclosure in their response and showed promise of future improvements. For example, the company disclosed emissions data from its facilities worldwide, and it stated that in the next two years it will begin compiling emissions data from its enormous supply chain. **Wal-Mart** and **Staples** led the retail industry with best disclosure practices, while retailer **JCPenney** provided the least amount of information, especially relating to emissions data.

Utilities-Telecommunications

Telecommunications companies provided very little information about their risks related to climate change. Most of these companies stated they are largely exempt from much of the discussion of climate change and its effects, particularly because of their relatively low levels of emissions from operations and because their ‘product’ itself does not affect the climate. However, the industry may face significant levels of physical risk from the

INDUSTRY: Multi-Sector Companies



5 out of 9 companies responded to CDP4



...and provided 39 percent of information sought by investors

INDUSTRY: Retail



8 out of 27 companies responded to CDP4



...and provided 31 percent of information sought by investors

INDUSTRY: Utilities – Telecommunications



5 out of 8 companies responded to CDP4



...and provided 20 percent of information sought by investors

weather-related effects of climate change. While some companies within this industry discussed physical risks from major weather events such as floods and hurricanes, they did not make the connection between such events and climate change. An exception to the trend of poor climate risk disclosure was **Verizon Communications**, the industry leader for disclosure in response to the questionnaire, and the only telecom to disclose emissions data. Verizon not only provided better disclosure than all of its industry peers, but also offered above-average disclosure compared to all S&P 500 responders.

Box 2: Two Factors That Improve Disclosure

Two factors that may have influenced the quality of disclosure among companies include:

Prior exposure to investor requests for climate risk disclosure. Companies in several industries facing high regulatory risk had better disclosure practices than those with lower regulatory risk. A number of U.S. institutional investors who are members of the Investor Network on Climate Risk have been working closely with electric power companies, oil & gas companies, automobile companies and other high-emitting industries. Additionally, industries demonstrated stronger disclosure when NGOs or socially responsible investor groups (SRIs) have engaged with companies on climate change. Although these companies may have received the CDP questionnaire for the first time in 2006, their prior dialogues with investors and their previous experience in analyzing and disclosing climate change risks may have prepared them for better disclosure than companies that have not previously worked on this issue.

Prior experience with sustainability reporting, especially through the Global Reporting Initiative (GRI). Sixty companies that responded to the questionnaire have published sustain-

ability, corporate citizenship, or social responsibility reports using GRI's Sustainability Reporting Guidelines. The companies that have used GRI in the past had an overall higher quality of disclosure in their responses than companies with no prior history using GRI. GRI reporting companies that responded to the questionnaire disclosed 37 percent of the information investors are looking for in the Global Framework, whereas the average responding company that does not have a history of producing GRI reports disclosed 22 percent of the information needed by investors. Also, companies that have experience with GRI showed a higher likelihood of participating in CDP. Companies that have disclosed climate change information using the GRI guidelines have experience disclosing information such as climate risk, emissions data, corporate governance, and energy consumption, and thus may be more inclined to disclose this information in response to other requests. This trend may be attributed to companies' familiarity with the idea of voluntary environmental disclosure, or because the companies simply have information requested by CDP at their disposal because it was already gathered for a GRI report.

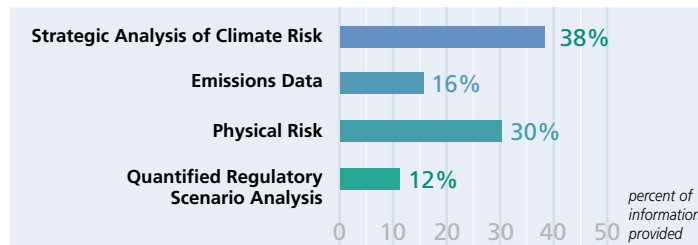
3. Key Findings

In addition to the variations in the quality of disclosure between S&P 500 industries, the quality of disclosures also varied by the type of information provided. Investors who created the Global Framework have asked for disclosure in four key areas: 1) strategic analysis of climate risk and emissions management; 2) emissions data; 3) physical risks of climate change; and 4) regulatory risks.

Companies had higher rates of disclosure in areas that were more qualitative in nature (for example, discussions of climate risk and opportunities, strategic management and governance of climate change, and physical risk), versus areas that required more quantitative information and analysis (such as emissions data and current and future regulatory scenarios).

When evaluated according to the four sections of the Global Framework, S&P 500 responding companies offered the following levels of disclosure. Companies provided:

Figure 6: Level of Disclosure by Global Framework Category



3.1 Strategic Analysis of Climate Risk and Emissions Management

3.1.a. What Investors Want

As described in the Global Framework, investors “are looking for analyses that identify companies’ present and future challenges and opportunities associated with climate change. Investors therefore seek management’s strategic analysis of climate risk, including 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.

“Specifically, investors urge companies to disclose a strategic analysis that includes:

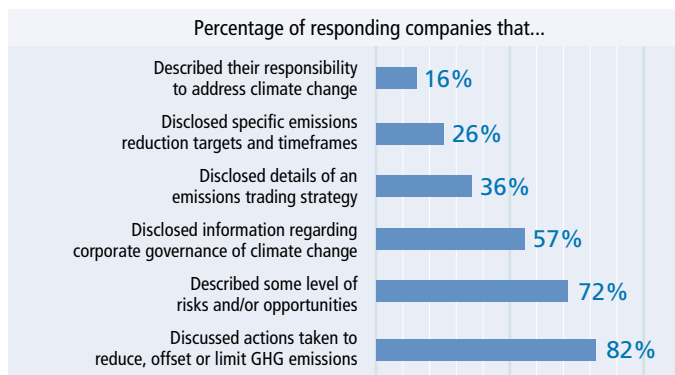
- **Climate Change Statement**—A statement of the company’s current position on climate change, its responsibility to address climate change, and its engagement with governments and advocacy organizations to affect climate change policy.
- **Emissions Management**—Explanation of all significant actions 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, or 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 the names of the executives in charge of addressing climate risk, and whether the Board has been engaged on climate change. 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.”¹³

3.1.b. Key Findings

Figure 7a: Key Findings – Strategic Analysis of Climate Risk and Emissions Management



The areas of strongest disclosure for responding companies were: risk and opportunity analysis, emissions management, and corporate governance.

Opportunities Versus Risks. Nearly three quarters (164 companies) of S&P 500 companies responding to the questionnaire disclosed some level of climate risk or opportunities¹⁴. More companies disclosed opportunities than risks, and fully half of the companies that discussed opportunities did not mention climate risk. Conversely, most companies that disclosed climate change as a risk also viewed it as presenting business opportunities.¹⁵

Until recently, it was typical to assume that the greatest climate risks were faced by the highest emitters, and in some sense that is true: emitters are more likely to face regulatory risk as well as litigation risk. But the severe weather of the last few years has shown that physical risk can affect nearly any company, regardless of its emissions. Table 3 on page 9 outlines some of the risks and opportunities presented by climate change.

Many responses demonstrate that the old climate change message of ‘doom and gloom’ is being replaced by a new message of business opportunities through innovation, sound strategic management, and preparation for what the future may bring. Some businesses are looking for business strategies that

13. *Global Framework for Climate Risk Disclosure*, available in Appendix A or www.ceres.org.

14. In this analysis, disclosure of opportunities specifically refers to disclosure that does not merely identify a possible opportunity, but instead states that the company has invested resources into realizing this opportunity, or has plans to do so.

15. However, about one-third of companies concerned about climate risk did not mention opportunities presented by climate change.

benefit both shareholders and society through positive, proactive measures, rather than approaching climate change strictly from a defensive position.

Furthermore, many of these opportunity-focused companies had better than average disclosure, providing a high level of detail and a sophisticated understanding of climate risk. Companies that disclosed only opportunities were also more likely to disclose the following information:

- Information about emissions reduction programs (such as detailed emission targets and reduction timetables)
- Information describing actions that the company is taking (or will take) to minimize risk or take advantage of opportunity
- Details of the company's corporate governance practices with regard to climate change

Examples of companies that disclosed well with regard to climate opportunities—but *did not adequately address risk*—include **DuPont, General Electric, Exelon, Baxter International, International Paper,** and **IBM**. Despite significant financial losses from the hurricanes of 2005 in recent quarterly securities filings, both DuPont and GE demonstrated poor climate risk disclosure in their questionnaire responses. Investors encourage companies to explore and invest in opportunities related to climate change, but doing so at the expense of risk disclosure is not in line with investors' needs.

Corporate Policy on Climate Change. Respondents provided relatively little information about their climate change policies. Only about a third of responding companies (66 companies) disclosed a policy statement on climate change, and only about half of these articulated the company's responsibility for addressing the problem. Furthermore, only 35 companies reported having a policy about government's role in climate change mitigation and emissions reductions.

Emissions Management. Responding companies disclosed considerable information about their actions in response to climate change. Two-thirds (150 companies) discussed examples of actions taken to minimize risk or take advantage of opportunities relating to climate change.

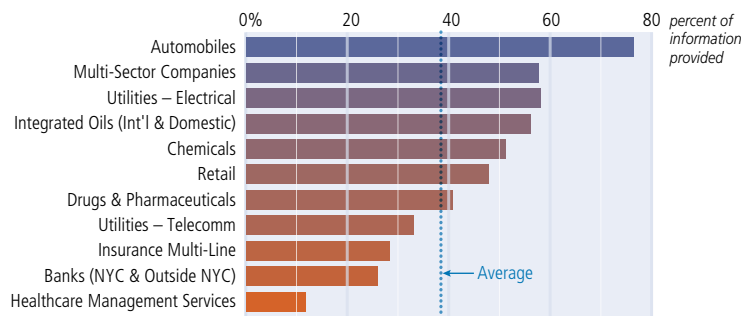
While an impressive 82 percent of responding companies (186 companies) discussed measures taken to reduce GHG emissions, only 60 of these companies provided specific information about the company's reduction strategy in the form of formal targets and timeframes.

About a third of responding companies (82 companies) detailed emissions trading strategies, while only a few (9 companies) disclosed estimated costs or profits from emissions trading, a rate quite low considering it was explicitly requested in the questionnaire.

Corporate Governance and Climate Change. Just over half of the responding companies (130 companies) provided details of corporate governance actions with regard to climate change. More specific disclosure of important components of governance was less frequent. For example, disclosure of board engagement on climate change was provided by 42 percent of companies (95 companies), and disclosure of whether executives are in charge of addressing the risks and opportunities of climate change was made by 47 percent of responding companies (107 companies).

3.1.c. Industry Performance: Leaders and Laggards on Strategic Analysis of Climate Risk and Emissions Management

Figure 7b: Level of Disclosure of Strategic Analysis of Climate Risk and Emissions Management



Poor Disclosure: Banks—Four of the 12 companies with the worst disclosure of risk analysis and emissions management were in the banking industry, and many of the other poor performers were also in the financial services sector. The average responding company in the banking industry disclosed only 26 percent of the information investors are looking for, while the worst of these low performers disclosed no information at all. Additionally, many of these poor performers declined permission for their questionnaire response to be made public.

Many banks stated that strategic analysis of climate risk, emissions management and corporate governance pertaining to climate change had little to do with their business, despite the fact that banks provide significant financing to some of the highest emitting sectors and have operations in regions at risk due to extreme weather events. Investors are seeking assurance that banks are thinking strategically about the quality and long-term viability of project financing to electric power plants, oil & gas pipelines, or other projects that may be adversely affected by regulations to cap carbon emissions. Investors also need to know that banks are planning for the effects of changes in weather and diseases on their employees and customers.

Exceptions to the poor disclosure practices of the banking industry are **Bank of America** and another bank that declined to make its response publicly available. Each company provided well above the industry average and the S&P 500 average disclosure, providing *nearly three quarters* of the information investors are looking for, and performing especially well regarding climate risk and opportunity analysis, corporate climate policy and corporate governance.

Good Disclosure: Electric Utilities—On the opposite end of the spectrum, the electric utilities industry provided a greater level of depth in its disclosure of climate-related risk analysis, emissions management and governance. The average responding electric utility provided well over half of the information investors are looking for.

The electric utilities had some of the best disclosure on such issues as emissions management and identification of risk, but also showed strong disclosure of corporate governance, climate change policy, external communication of climate-related information, and opportunities. While this industry is typically

regarded as one of the industries with the highest climate-related risk, electric utilities in the S&P 500 also gave strong attention to opportunities. Similar to the financial services sector, however, the electric utility with the poorest rate of disclosure declined permission for public access to its response.

Box 3: Example of Good Disclosure: Strategic Management of Climate Risk

Citigroup

In contrast to the banking industry as a whole, Citigroup provided better disclosure than other S&P 500 financial services company responding to the questionnaire. In particular, the company described its risks, opportunities and examples of innovation relating to climate change. This disclosure showed that Citigroup is taking steps to analyze and manage the implications of climate change, and the company's response serves as a preliminary benchmark for others in the financial services sector.

From Citigroup's response:

“Commercial risks:

- Citigroup corporate buildings and campuses could be affected by severe weather events or sea level rise.
- Citigroup employees could be affected by health-related impacts of climate change.
- Regulatory changes could affect our clients in such industry sectors as agriculture, construction, manufacturing, transportation, energy, and other resource-intensive industries.
- Severe weather events, sea level rise, or melting permafrost could affect our clients in such industry sectors as insurance, agriculture, construction, and energy.

“Opportunities:

- We will be driven to find additional cost savings related to our internal energy efficiency measures.
- We provide financing for clients for infrastructure adaptation projects, energy efficiency upgrades, and clean energy projects.
- We provide financing for companies and technologies related to climate change solutions, such as clean and energy-efficient technologies, renewable energy, and sustainable forestry/carbon sequestration.
- Transactions can be tailored to help clients take advantage of environmental regulations and tax structures.
- Our commodities trading unit in Europe is expanding its trading operations to include in carbon trading.

“Innovation:

- *Sustainable Development Investment Program*—SDIP operates as a unit within Citigroup's Alternative Investments division. The investment program's objective is to make private equity investments in renewable energy, sustainable forestry, waste management, water management and clean technologies. Our geographic focus has been in developing markets where we believe these investments can have the most impact, although we will also consider investments in developed countries. In 2005, SDIP invested in Balrampur Chini Mills Ltd, one of the largest sugar producers in India, which intends to expand its ethanol manufacturing capacity in various states in India.
- Our Environmental and Social Risk Management team is helping to address climate change through their support of sustainable forestry.
- *Energy Efficient Mortgage*—Citigroup offers the MyCommunityMortgage Energy Efficient Mortgage developed by Fannie Mae and targeted to low- and middle-income consumers. The product is structured as an underwriting feature where an energy-efficient home's electricity savings is counted as income for the purposes of a borrower's qualifying ratio. The product can potentially provide the income “boost” needed by a borrower to qualify for a mortgage.
- *Asset Finance*—Citigroup's Corporate and Investment Bank's Asset Finance Group (AFG) made its first renewable energy equity investments in 2005. The Bingham Lake Wind Power Project in Minnesota, in which AFG took a 50% equity interest, has a 15 MW generating capacity. The San Juan Mesa Wind Power Project in New Mexico, in which the AFG took a 25% equity interest, has a 120 MW generating capacity.”

Citigroup's reporting does not include many of the high carbon emitting energy projects that it finances. The company's disclosure could be improved by expanding its analysis of the climate risks associated with these projects.

3.2 Emissions Disclosure

3.2.a. What Investors Want

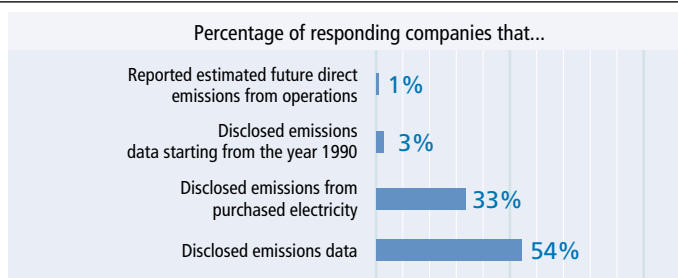
As articulated in the Global Framework, “as an important first step in addressing climate risk, companies should disclose their total greenhouse gas emissions. Investors can use this emissions data to help approximate the risk companies may face from future climate change regulations. Specifically, investors strongly encourage 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.

“Investors strongly encourage companies to report absolute emissions using the most widely agreed upon international accounting standard—*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. If companies use a different accounting standard, they should specify the standard and the rationale for using it.”¹⁶

3.2.b. Key Findings

Figure 8a: Key Findings – Emissions Disclosure



Just over half of responding companies disclosed some information about their GHG emissions. However, much of the emissions data reported (123 companies) did not show a high level of sophistication, either in scope or depth.

On average, responding companies provided only 16 percent of the information investors are looking for about emissions. In particular, companies neglected to address certain aspects of GHG emissions data, such as estimated future emissions, historical emissions, emissions from products or services, supply chain emissions, and emissions related to the end-of-life or disposal of their products.

Historical Emissions Data. While 54 companies disclosed emissions data from the past 2–4 years, only 20 companies provided emissions data from the past 5–8 years, and only 6 companies disclosed data starting from the year 1990. At the same time, one-third of companies (75 companies) presented emissions levels from indirect sources (Scope 2 of the WBCSD/WRI GHG Protocol Standard), but

16. *Global Framework for Climate Risk Disclosure*, available in Appendix B or www.ceres.org.

when asked for data relating to emissions from products and/or services (Scope 3 of the GHG Protocol Standard), only eight percent of companies (18 companies) gave the requested information. Furthermore, although the questionnaire asked specifically for the quantity of emissions from the disposal of its products, less than one percent complied with this request.

Box 4: Example of Good Disclosure: Emissions Data

Verizon Communications

Telecommunications companies disclosed less than 5 percent of the information investors need, and a majority of responding companies did not disclose emissions data. One major telecom, Verizon Communications, disclosed emissions data that was above average not only in this industry but across all responding companies. The average S&P 500 responding company disclosed 16 percent of information investors need, while Verizon disclosed 23 percent. The company disclosed direct emissions, indirect emissions from purchased electricity, and the method used for its emissions reporting. Verizon demonstrates that even while producing a relatively small amount of emissions, it is still possible for telecom firms to quantify those GHG emissions and publicly disclose them. The company provided the following information on its emissions:

In 2005, emissions from our domestic wireline and wireless operations amounted to approximately 5.7 million metric tons of carbon dioxide (CO₂), calculated using EPA's emission calculation guideline. The majority (5.2 million) of these are Scope 2 or indirect emissions associated with the purchase of grid electricity to power our switching network and buildings. The remaining emissions (500,000) are Scope 1 or direct emissions associated with our use of petroleum products to fuel our vehicle fleet.

Verizon also breaks down its emissions data separated by source: diesel, gasoline and electricity. Although investors would like to see yet greater sophistication in emissions reporting (for example, the inclusion of historical and future emissions data), the company's data is important as the sole example of a telecom that publicly discloses emissions data in their response to the questionnaire.

Wal-Mart

With discount stores in all U.S. states and 14 countries around the world, Wal-Mart, the 'world's largest retailer,' emitted ap-

proximately 20,783,369 total tons of CO₂e in 2005. Despite its massive size, the company has managed to produce a comprehensive accounting of its worldwide emissions from refrigerants, on-site combustion, trucks, cars, airplanes, and purchased electricity. Wal-Mart also reports using the WRI/WBCSD GHG Protocol Standard and discloses the following summary emissions: Direct (worldwide), Indirect (worldwide), Annex B, and European Trading Scheme.

Although retail companies are not generally considered high-emitters with the associated high regulatory risks, the industry appears to be making an effort to compile more emissions data. Wal-Mart's plans to begin compiling emissions related to its supply chain is one example of this improvement.

Devon Energy

Devon Energy was one of the only companies in the S&P 500 to disclose information regarding future emissions of any source, and the company has experience in calculating and reporting GHG emissions through its operations in Canada, which discloses emissions data and reductions programs in a Canadian GHG registry program. In Devon's response to the questionnaire, the company links directly to its report with the Canadian Standards Association. Here, Devon Energy details information that investors will find useful, such as:

- Emissions data dating back to 1990, and continuing through subsequent years; and
- Future direct and indirect emissions.

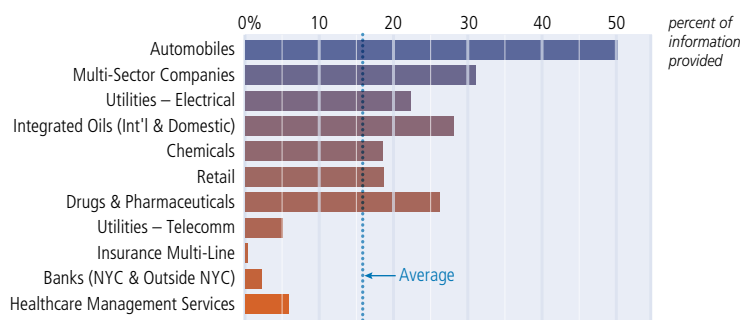
While its disclosure is some of the highest quality of all S&P 500 respondents, it is important to note that Devon only disclosed this detailed information with regard to Canadian emissions, and not those produced in the United States. The company has promised, however, to report on its entire greenhouse gas emissions footprint by the end of 2007.

Future Emissions Data. Only 2 companies projected their future emissions from direct sources, and only 1 company estimated Scope 2 or Scope 3 future emissions levels. INCR members have indicated that they need more comprehensive information about GHG emissions, particularly future emissions estimates. Estimating future emissions and setting emission reduction targets and timetables is an especially valuable indication of the sophistication of a company's emissions management strategy.

Standardized Emissions Accounting. Investors encourage companies to disclose emissions according to 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 (WBCSD/WRI). An impressive two-thirds of companies that reported emissions data utilized an emissions reporting standard, and over half used the WBCSD/WRI standard.

3.2.c. Industry Performance: Leaders and Laggards in Emissions Disclosure

Figure 8b: Level of Disclosure of Emissions Data



Poor Disclosure: Chemicals—The chemicals industry provided poor disclosure of emissions data, particularly when considering the high risks faced by this industry with regard to climate change. Many chemical companies have operations in the Gulf or depend on petroleum products refined in the Gulf, exposing the industry to oil price hikes.

The chemicals industry disclosed only 18 percent of the emissions data investors are looking for, which is about the same level of disclosure given by the retail industry, which has significantly less regulatory risk or risk due to petroleum price hikes than the chemical industry. While the chemical company **Praxair** performed well in this area, and **Dow Chemical** and **DuPont** provided relatively satisfactory responses, many chemical companies gave very little information regarding their emissions performance. For example, **Eastman Chemical** and **Ecolab** gave no disclosure whatsoever of emissions data.

Good Disclosure: Automobiles—The auto industry provided a relatively high level of disclosure of emissions data. **Ford** and **General Motors** disclosed a significant amount—about half—of emissions-related information to investors, while the average S&P 500 responding company gave only 16 percent of information investors seek. The strong disclosure practices of the two major U.S. auto manufacturers may be a result of engagement by NGOs and investors who have made the case that the industry faces high regulatory and competitive risks, as well as reputational and physical risks.

In particular, Ford had strong GHG emissions disclosure, reporting direct and indirect emissions from

the past six years, estimating the CO₂ emissions of a vehicle's life-cycle, and revealing the average vehicle tailpipe emissions from the past seven years. While other industries neglected to give emissions data from products or services, the auto industry showed particular strength in beginning to disclose at least average emissions data from its products—both Ford and GM showed average current and historic average tailpipe emissions from their fleet of vehicles. Ford and GM's disclosure of emissions levels from operations as well as from their products demonstrates that the U.S. auto industry is beginning to examine climate-related issues, although much work still needs to be done in order to reflect the quality and quantity of emissions data that investors want.

3.3 Physical Risk

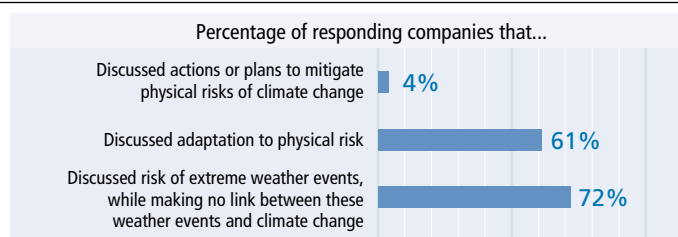
3.3. a. What Investors Want

As stated in the Global Framework, “climate change is beginning to cause an array of physical effects, many of which can have significant implications for companies and their investors. To help investors analyze these risks, investors encourage companies to analyze and disclose material, physical effects that climate change may have on the company's business and its operations, including their supply chain.

“Specifically, investors urge companies to disclose how climate and weather generally affect their business and its operations, including their supply chains. These effects may include the impact of changed weather patterns, such as increased number and intensity of storms; sea-level rise; water availability and other hydrological effects; changes in temperature; and impacts of health effects on their workforce. After identifying these risk exposures, companies should describe how they could adapt to the physical risks of climate change and estimate the potential costs of adaptation.”¹⁷

3.3.b. Key Findings

Figure 9a: Key Findings – Physical Risk



Investors were given about one-third of the information desired from companies about the physical risks of climate change. Most of the responding companies discussed weather impacts and described material physical effects, weather events, or other weather-related phenomena. However, most companies did not mention climate change when discussing physical risk, choosing to disclose *general* weather risk rather than climate change-related weather risk.

A small portion of companies provided a more detailed analysis of how weather events could affect their business by describing different types of weather events, specific corporate facility locations, and the link between climate change and severe weather events.

17. *Global Framework for Climate Risk Disclosure*, available in Appendix A or www.ceres.org.

Box 5: Severe Weather Events: A Line-item Write Off or a Strategic Risk?

Climate change will make severe weather events more frequent, and the impact of severe weather can leave a deep imprint on corporate financial performance. However, weather is usually a factor that companies report in their financial filings only when an unexpected and severe event harms physical infrastructure, affects energy prices or other factors of production, or perturbs normal business operations in unanticipated ways. What is considered “good” weather is rarely mentioned in financial filings, even when it contributes to profits, as though companies expect good weather to be normal.

Calvert recently examined the 10-Q (quarterly financial reporting) statements, covering the third and fourth quarters of 2005, of the largest 100 of the S&P 500 (see Appendix E for samples). Nearly half reported measurable impacts from the hurricanes of 2005 (and, in some cases, 2004 as well). While several companies—mostly big-box retailers like Walgreen, WalMart, and CVS—reported that the impacts were not material, many others recorded significant effects, almost all of them losses. It is not surprising that oil/gas producers and oil/gas service companies experienced significant damage from the hurricanes, nor is it particularly shocking that companies with major refineries or production facilities depending on petroleum feedstocks, like Dow and DuPont, were injured financially. Insurance companies—including AIG, Allstate, Metlife, and St. Paul Travelers—were hit hard as well.

The effect of severe weather was felt much more widely than in just the energy and chemical businesses. Infrastructures suffered: electric utilities like Duke, Dominion Resources, and TXU all reported damage, as did BellSouth, which recorded a loss of \$102 million after tax for asset impairment (damaged facilities), as well as reduced revenue of \$51 million in proactive billing credits for service outages, an increased allowance of

\$31 million for uncollectible accounts from displaced customers, and \$83 million in expense and \$22 million in capital needed for network restoration. Coca-Cola, PepsiCo, Target, McDonalds, and Carnival were all hit with losses, and nearly all the financial services companies (Morgan Stanley, Merrill Lynch, Citigroup, Bank of America, JP Morgan Chase, and Wells Fargo) reported significant impacts. In the consumer staples sector, Kimberly Clark, Anheuser–Busch, and Procter & Gamble took hits, as did Boeing, Lockheed Martin, Honeywell, and FedEx among industrial companies. Two companies—Home Depot and Emerson Electric—reported gains, partly as a result of the Gulf Coast hurricanes.

There is growing evidence that hurricanes have been made more severe by climate change and warming oceans. And climate change is also expected to cause more widespread forest fires in the American west, flood events in the Northeast, and storm surge that will compromise levee systems in the Gulf. Despite the scientists’ warnings, none of the 10-Q filings described above made the link between climate change and severe weather. And only a tiny handful of companies are disclosing to investors—either through securities filings or through the Carbon Disclosure Project—their strategic plans for dealing with a trend of more severe weather as an impact of climate change.

Companies need to have a paradigm shift in their thinking about severe weather events. Investors need more than a reporting of unexpected losses after a weather event occurs. Instead, companies should disclose their strategies, plans, and governance mechanisms in place for dealing with ongoing, more severe weather events as a result of climate change.

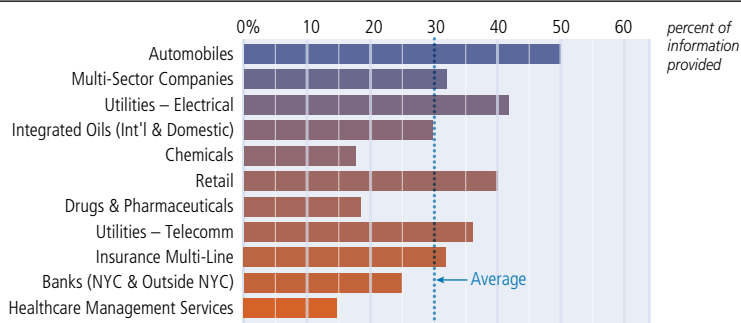
Looking in the rear-view mirror is no longer a sufficient predictor of the road ahead.

Adaptation vs. Mitigation. The responses illustrated a large discrepancy between companies that *discussed* physical risk and those that *analyzed* their exposure to that risk. There was also a great difference between companies that disclosed how they *adapted* to physical risk and those that disclosed a strategy to *mitigate* the GHG emissions that may cause physical risk.

Nearly two-thirds of responding companies (136 companies) reported actions to adapt to physical risk, through insurance, crisis management plans, or diversifying the locations of a company’s businesses. No company disclosed the estimated costs it may incur from physical risk adaptation. Only 9 companies discussed mitigation of physical risk by disclosing plans or actions (such as reducing GHG emissions) to address the root causes of their physical risk.

3.3.c. Industry Performance: Leaders and Laggards in Disclosure of Physical Risks

Figure 9b: Level of Disclosure of Physical Risk



Poor Disclosure: Healthcare Management Services—In responding to the CDP questionnaire, the healthcare management services industry provided below average disclosure of the physical risks of climate change. The industry provided only about 15 percent of the physical risk information that investors are looking for.

Most responses by companies in the healthcare management services industry either neglected to answer the physical risk question completely, or simply stated that their type of business is not concerned with the physical impacts of climate change. Those companies that did respond did not form a connection between climate change and physical risk, but discussed adaptation to physical risk in terms of crisis management and emergency preparedness.

With the exception of one company that did not make its response publicly available, healthcare services companies did not identify indirect risk from the physical effects of climate change—particularly the increase in medical and pharmaceutical costs that the industry may incur. A recent report by the Harvard Medical School, SwissRe, and the United Nations Development Programme¹⁸ predicts that climate change may lead to changes that can bring about large-scale human-health devastation caused by heat waves and forest fires, as well as increased asthma rates, allergies, infectious diseases, and vector-borne diseases.

In addition, the majority of healthcare services companies did not allow their questionnaire responses to be publicly disclosed.

Good Disclosure: Retail—The retail industry provided above-average disclosure of physical risk in their response to the questionnaire. While responding companies in the S&P 500 disclosed less than 30 percent of the physical risk information investors are looking for, the average responding retail company provided 40 percent of this information. Companies such as **Wal-Mart** and **Staples** provided the best disclosure of the retail companies—detailing their analysis of physical risk and plans to mitigate this risk, and explicitly linking their emission reduction strategies to the potential physical effects of climate change.

18. The Center for Health and the Global Environment, Harvard Medical School, 2005. *Climate Change Futures: Health, Ecological and Economic Dimensions*

Retail companies have good reasons to assess their physical risks from weather events or changes in weather patterns. Damage to stores, reduced customer visits or closing of operations, and interruption of manufacturing or supply have been cited as potential effects of storms, rising sea levels and other weather events. At the same time, some retail companies reported opportunities related to the physical risks faced by society, disclosing their significant role in the preparation for natural disasters or the reconstruction of areas damaged by severe weather events. Companies in this industry performed best on the subject of physical risk, and unlike the majority of responding S&P 500 companies, made the strategic connection between climate change and physical risk.

Box 6: Example of Good Disclosure of Physical Risk

Entergy Corporation

In the wake of Hurricanes Katrina and Rita, Entergy emerged with forward-looking determination to respond to the devastation and losses to its business, employees, and customers. While many companies concentrated on efforts to rebuild, Entergy coupled this task with an objective to mitigate similar disasters in the future. In its response to the questionnaire, Entergy states that climate change is central to the physical risk it faces, and stresses that a main method of diminishing this risk is reducing its greenhouse gas emissions. After surpassing its goal of stabilizing GHG emissions at 2000 levels, the company has now pledged to stabilize its emissions at 20 percent below 2000 levels during the 2006-2010 timeframe.

From Entergy's CDP4 response:

"Entergy's regulated utility service area is located in the Gulf Coast region (parts of Louisiana, Mississippi, Arkansas and Texas) and can be impacted by hurricanes and strong thunderstorms during summer months and ice storms during the winter. Major storm events, as demonstrated by Hurricanes Katrina and Rita, damage infrastructure, cause energy outages, lost revenues, interfere with the delivery of fuels to generating units and can result in potentially large economic impacts to the region. In addition, these storms accelerate the loss of coastal wetlands. Coastal wetlands and barrier islands provide a protective defense from storm surge for low-lying inland regions reducing damage from hurricanes. For every mile of wetlands, the effect of storm surge is reduced by _ foot. 1990 to 2001 the average rate of loss was 4.3 square miles per year. Hurricane Katrina caused the loss of roughly 40-65 square miles of wetland in the basin. In one day more wetlands were lost than the entire decade from 1990 to 2000.

"The massive flooding in and around New Orleans put a harsh spotlight on an environmental crisis that has been years in the making. We believe that the impacts expected from climate will only exacerbate these physical risks. The loss of wetlands in southeastern Louisiana left the city more exposed and extremely vulnerable to damaging storms. And it's not just New Orleans that is threatened. Wetlands have been lost in many coastal areas of Louisiana, leaving hundreds of communities at risk. In the wake of Hurricane Katrina, we are redoubling our efforts in support of wetland restoration. We are working closely with local, state and federal governments and other organizations to increase the effectiveness of restoration efforts. We are also working with various public and private programs on a regular basis to maximize the funding they provide for coastal and wetland protection and restoration projects.

"More importantly, we believe that as a society we must address the root cause of this crisis, which is linked to the broader sustainability concern of global warming and sea level rise. We believe meaningful action must be taken to slow and then reduce atmospheric concentrations of greenhouse gases such as CO₂. Entergy is a strong advocate for establishing mandatory greenhouse gas cap and trade legislation in the U.S. We are working with our partners the Clean Energy Group, Environmental Defense and the Pew Center Business Environment Leadership Council to advocate for meaningful measures to avoid dangerous impacts from climate change. We also have worked to support the development of the Regional Greenhouse Gas Initiative (RGGI), a mandatory cap and trade program being implemented by northeastern states. We are using lessons learned implementing our voluntary GHG stabilization commitments to help demonstrate and encourage economically efficient greenhouse gas policy."

3.4 Analysis Of Regulatory Risks

3.4.a. What Investors Want

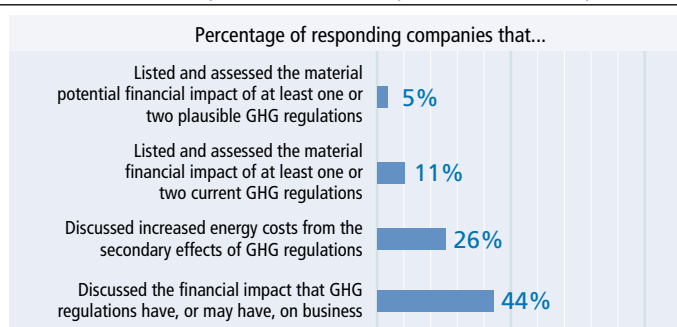
As articulated in the Global Framework, “as governments begin to address climate change by adopting new regulations that limit greenhouse gas emissions, companies with direct or indirect emissions may face regulatory risks that could have significant implications. Investors seek to understand these risks and to assess the potential financial impacts of climate change regulations on the company.

“Specifically, investors strongly urge companies to disclose:

- Any known trends, events, demands, commitments, and uncertainties stemming from climate change that are reasonably likely to have a material effect on financial condition or operating performance. This analysis should include consideration of secondary effects of regulation such as increased energy and transportation costs. The analysis should incorporate the possibility that consumer demand may shift due to changes in domestic and international energy markets.
- A list of all greenhouse gas regulations that have been imposed in the countries or jurisdictions in which the company operates and an assessment of the potential financial impact of those rules.
- The company’s expectations concerning the future cost of carbon resulting from emissions reductions of five, ten, and twenty percent below 2000 levels by 2015. Alternatively, companies could analyze and quantify the effect on the firm and shareowner value of a limited number of plausible greenhouse gas regulatory scenarios. These scenarios should include plausible greenhouse gas regulations that are under discussion by governments in countries where they operate. Companies should use the approach that provides the most meaningful disclosure, while also applying, where possible, a common analytic framework in order to facilitate comparative analyses across companies. Companies should clearly state the methods and assumptions used in their analyses for either alternative.”¹⁹

3.4.b. Key Findings

Figure 10a: Key Findings – Analysis of Regulatory Risk



Companies provided about 12 percent of the regulatory risk information investors are looking for, as specified in the Global Framework. Less than half of responding companies (100 companies) provided even a basic description of regulatory risk. More specific analysis was disclosed even less frequently. Twenty-five companies assessed the material potential financial impact of *current* GHG regulations in countries in which they operate. *Plausible* GHG regulations that are currently under discussion by policymakers were assessed by only 11 companies.

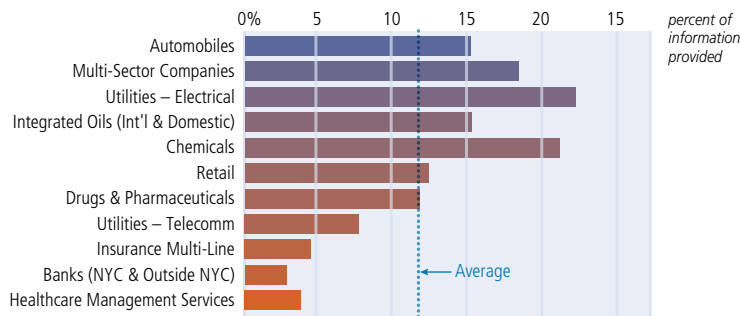
19. *Global Framework for Climate Risk Disclosure*, available in Appendix A or www.ceres.org.

Secondary Effects of Regulation. One-quarter of S&P 500 companies responding to the questionnaire (57 companies) considered the secondary effects of regulation of GHG emissions such as increased energy costs. At the same time, only 4 percent of companies (9 companies) identified increased transportation costs as a potential consequence of regulation. Finally, only 5 percent of responding companies (11 companies) discussed the possibility that consumer demand may shift due to changes in domestic or international energy markets.

Specific Regulatory Scenarios. The minority of companies that discussed specific U.S. regulations usually focused on generic “cap-and-trade” programs, occasionally referring to proposed regulations such as the McCain-Lieberman bill and the Regional Greenhouse Gas Initiative (RGGI), as well as future programs that will likely result from the recent passage of global warming legislation in California. Overall, responses to the questionnaire give investors the impression that companies remain unprepared for the challenges and opportunities of potential GHG regulation.

3.4.c. Industry Performance: Leaders and Laggards on Disclosure of Regulatory Risk

Figure 10b: Level of Disclosure of Regulatory Risk



Poor Disclosure: Autos—Automobile companies disclosed very little information regarding GHG regulation and its potential effects on their business. Although the industry performed better than a majority of those examined in this report, the insufficient responses by auto companies do not allow investors to make informed evaluations of climate risk. Considering the high regulatory risks facing the automobiles industry, Ford and GM’s failure to seriously address regulation in their responses signals to investors that these companies may be unprepared for changing regulations.

For example, GM’s climate policy statement does not mention the financial and competitive implications of potential GHG regulations in the U.S. and abroad, such as the Kyoto Protocol, China’s tailpipe emission standards, the European Automobile Manufacturers Association’s voluntary CO₂ commitment, or other regulations. Strong disclosure in this area also would have included a discussion of the potential effects of California’s Assembly Bill 1493, which, if upheld in the courts, will call for a 30 percent reduction in CO₂ emissions from new vehicles sold in the state between 2009 and 2016. At least ten other states will adopt California’s standards if upheld in the courts, and *one-third* of the North American auto market would be affected, possibly causing manufacturing difficulties related to economies of scale.

Good Disclosure: Electric Utilities—While the average responding S&P 500 company provided investors with nearly 12 percent of the information requested in the Global Framework, the average company in the electric utilities industry disclosed approximately 23 percent of information relating to regulatory risk.

High rates of disclosure by this industry may not be surprising, since these companies will be directly affected by future GHG emissions regulations, and many utilities have engaged with stakeholders on regulatory issues in preparation for a carbon-constrained future. Many of the electric utilities companies responding to the questionnaire discuss mandatory regulations to control GHG emissions. These companies tend to support regulations only if they are economy-wide and nation-wide in scope, employ market-based mechanisms, and recognize earlier voluntary efforts to reduce emissions. Surveying the questionnaire responses, there was no clear majority of electric utilities companies in support of or opposed to federal mandatory legislation of GHG emissions. However, many utilities felt it was important to voluntarily reduce their emissions levels.

Although this industry showed the highest levels of disclosure on the subject of regulation, many of the companies did not offer *quantified regulatory scenario analyses* of current and plausible GHG regulations in their responses. This trend may indicate that the utilities are quite familiar with the issue of GHG regulation, but they have not created detailed analyses that would fully prepare them for the effects of such regulation.

Box 7: Example: Good Disclosure of Regulatory Analysis

American Electric Power Company (AEP)

In An Assessment of AEP's Actions to Mitigate the Economic Impacts of Emissions Policies, a stand alone climate risk report discussed in its response to the questionnaire, American Electric Power analyzed and disclosed three potential GHG regulatory scenarios: the McCain-Lieberman Climate Stewardship Act, Carper's Clean Air Planning Act and EPA's Clean Air Interstate Rule and mercury rule. The company sought to "examine the costs to AEP of alternative scenarios and assess the impact of these uncertainties on the company's current and future capital investment decisions." AEP quantified the costs of the possible regulations and evaluated the potential impact based on such factors as the increasing costs of CO₂ over the next 5, 10 and 15 years. AEP's depth of analysis of regulatory scenarios indicates that the company considers climate change a key factor in its capital investment planning.

AEP's climate risk report, which was included in its response to the questionnaire, stated:

"The American Electric Power System (AEP) is the largest electric power generator in the United States, with a diverse portfolio of renewable, nuclear, and fossil fuel-fired generation assets. Due to the plentiful coal reserves in the eleven states in which AEP operates, the company relies heavily on coal as the primary energy source to generate a reliable supply of affordable electricity for its customers. The company

recognizes the significant responsibility it carries within the power sector, specifically, and U.S. industry, in general, to minimize the economic and environmental impacts of its decisions. Among the most significant economic drivers for coal-based generators are current and future environmental policies, particularly air quality policies and programs.

"In particular, limits on currently regulated air emissions are likely to become increasingly stringent and there is the possibility of mandatory controls on the emission of greenhouse gases... In the U.S., mandatory restrictions on greenhouse gas emissions remain a matter of active public debate. It is impossible to predict when or what form of greenhouse gas regulations might be imposed. At the same time, proposed legislation to require relatively modest initial reductions in greenhouse gas emissions appears to be attracting increasing bipartisan Congressional interest. The extent to which other manufacturing countries join in efforts to reduce greenhouse gases will affect the likelihood of Congressional passage of such measures.

"As a result, there are significant business issues when it comes to mitigating the economic impacts associated with environmental issues. To address these business issues in the public policy context, the subcommittee examined several scenarios for the regulation of both currently regulated air emissions and greenhouse gases."

4. Why Investors Care About Climate Risk: Short and Long Term Effects on Companies and Portfolios

By Calvert Social Investments

Climate change is a key concern for investors, and the number of investors that recognize it as such is growing rapidly. The Investor Network on Climate Risk now has over 50 members, managing \$3.7 trillion, and similar groups exist in Europe and Australia. Climate change will have profound and potentially disruptive impacts on the financial performance of companies and portfolios across sectors, markets, and securities. No sector is immune from these impacts, and increasing numbers of companies are beginning to adjust to this new reality.

Already, climate change has created measurable risks and opportunities for companies in sectors ranging from retail to autos to insurance. Investors and companies who do not understand the risks and opportunities are likely to experience unpleasant surprises. In the language of investment, risks that are better understood can be dealt with, to minimize the potential impact on a portfolio through diversification or adjustment of valuation models (the means by which investors identify which securities to buy and sell). The same is true on the opportunity side, or what investors call upside: companies best positioned to create new products and tap new markets emerging as a result of climate change may be more valuable than traditional valuation techniques suggest.

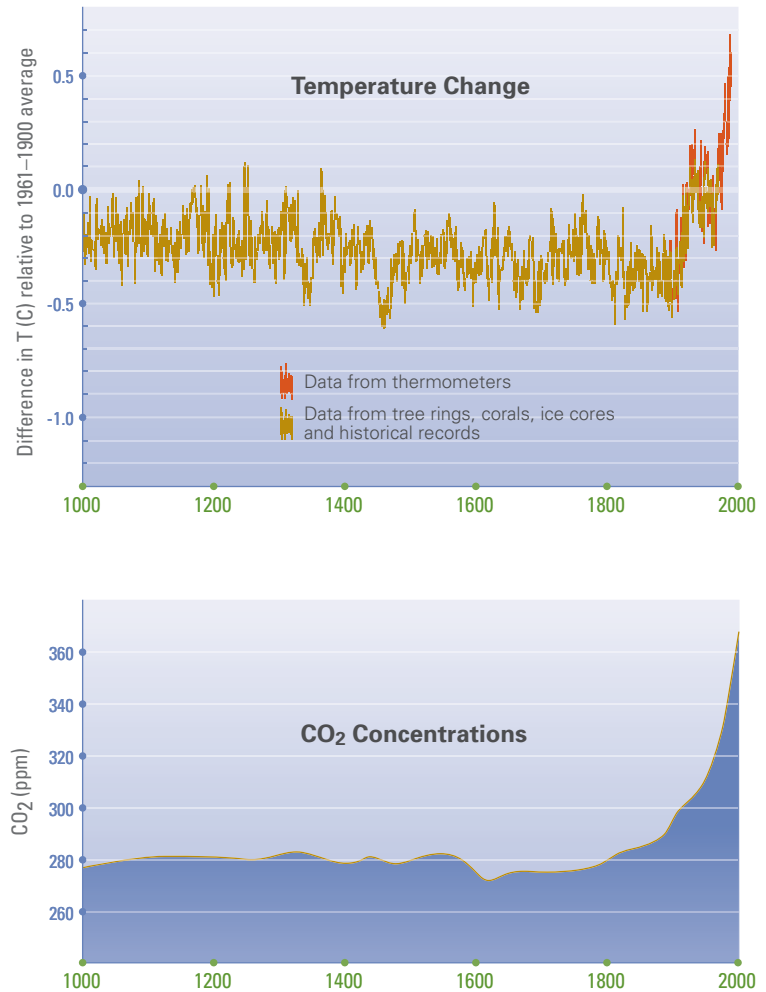
Climate Change: The Forecast

Over the past two centuries, human activities—and especially the combustion of fossil fuels—have led to an increase in greenhouse gases (GHGs) in the atmosphere. These gases trap the sun's heat like a blanket, warming the Earth's climate. There are many substances that can exert a greenhouse effect in the atmosphere, including the most abundant greenhouse gas of all: water vapor. The concern is that human activity has greatly increased concentrations of other greenhouse gases, and in 2005, the first international treaty regulating six of the most prevalent and powerful GHGs entered into force. The most abundant of the regulated gases is carbon dioxide (CO₂), and the effects and concentrations of other GHGs are often expressed in carbon equivalents.

Using a wide variety of tools, scientists have recently confirmed that the mean temperature of the globe was higher over the past few decades than in any period in the preceding four centuries. During the last

Figure 11: 1,000 Years of Global CO₂ and Temperature Change

Source: IPCC 2001



century, the earth warmed by approximately 0.6° C (0.9° F)²⁰, and is projected to warm by an additional ~2° to 6° C (~3° to 10° F) over the twenty-first century.²¹

While these numbers sound modest, that is deceptive: the earth's mean temperature tends to vary little over long periods of time, and even small changes can have dramatic consequences. The difference between the last ice-age and today's climate is less than 5° C. The warming that is widely predicted in consensus scientific documents is likely to dramatically change patterns of precipitation and increase floods, fires, and drought.

The physical implications of climate change are profound. A sampling of some of them follows, together with some indicators of how these changes could affect risks and opportunities on financial markets.²²

- Global sea level rise is likely to be *at least* 0.28 meters (1 foot) in this century, significantly increasing the danger from storm surges for coastal populations, cities, and ecosystems.
- Forest fire risks are heightened by the impacts of climate change, especially higher temperatures and more frequent or persistent drought. The incidence of large (>400 hectare) fires in the Western United States was four times greater between 1986 and 2003 than between 1970 and 1985, and the area burned was six times greater.²³ 2006 was the worst fire season on record in the United States, and the U.S. Forest Service's Pacific Northwest Research Station in Portland, Oregon predicts that climate change could increase forest fires by 143 percent.
- The risk and severity of flooding is exacerbated by climate-induced melting in early spring, as well as a rise in the ratio of rain to snow in the winter precipitation mix. The Association of British Insurers warns that climate change could increase the *annual* costs of floods in the UK alone by a factor of 15 before the end of the century, and in all of Europe, by €100–120 billion.²⁴
- There is evidence that indicates that ocean warming increases the intensity of hurricanes. Though there is no correlation between climate change and the *frequency* of tropical storms and hurricanes, there is likely a relationship between climate change and the *intensity* of these events. The energy released by the average hurricane has risen by about 70% in the past three decades.²⁵ The Association of British Insurers estimates that wind-related insured losses from hurricanes in the United States may increase by about three-quarters, to ~\$100–150 billion annually, by 2080.
- Climate change is likely to increasingly factor into increased incidence of human morbidity and mortality. For instance, the prevalence of asthma has quadrupled over the past two decades²⁶,

20. Intergovernmental Panel on Climate Change, *Climate Change 2001: Synthesis Report, Summary for Policymakers*, <http://www.ipcc.ch/pub/un/syren/spm.pdf>, p. 5.

21. National Research Council, Committee on Surface Temperature Reconstructions for the Last 2,000 years, *Surface Temperature Reconstructions for the Last 2,000 years*, Prepublication Copy, Pp., 3-5 (Washington, DC: National Academies Press, 2006).

22. Except where noted, this summary is taken from Allianz Group and World Wildlife Federation, *Climate Change and Insurance: An Agenda for Action in the United States*, October 2006, *passim*.

23. A.L. Westerling, H.G. Hidalgo, D.R. Cayan, and T.W. Swetnam, "Warming and Earlier Spring Increase Western U.S. Forest Wildfire Activity," *Science*, August 18, 2006, Vol. 313, No. 5789, pp. 940-943.

24. Association of British Insurers, *Financial Risks of Climate Change*, Summary Report, June 2005, p. 4.

25. Kerry Emanuel, "Anthropogenic Effects on Tropical Cyclone Activity," MIT, January 2006, <http://wind.mit.edu/~emanuel/anthro2.htm>.

26. Paul R. Epstein, "Climate Change and Human Health," *New England Journal of Medicine*, October 6, 2005, p. 1434

in part because of increased atmospheric dust from prolonged droughts and greater production of plant pollen, both of which are exacerbated by a warming globe; the incidence of malaria has grown by 1.3% per year, due to the expanding range of mosquitoes. West Nile Virus, also consequence of mosquito expansion, costs about \$500 million per year.

This list is far from exhaustive, and it is very likely that more possibilities will be added as knowledge of climate change and its effects advance. One of the great unknowns, for instance, is the effect of climate change on sea-level rise. While the consensus forecast predicts a sea-level rise of 1 to 3 feet this century, there exists the possibility of far more dramatic change, on the order of a hundred feet or more, if much of the continental ice in Antarctica and Greenland is lost through melting or rapid movement of glaciers into the sea. The loss of the West Antarctic Ice Sheet alone could raise sea level by 16 feet, which would cause significant harm to many of the world's centers of finance, including New York, Boston, London, and Tokyo.

Some of these forecasts can be avoided if efforts at GHG emission mitigation are successful. To combat the negative effects of climate change, consensus exists that the global average temperature should not increase by more than 2 degrees Celsius and rather stay below this threshold. This will imply a cut in annual GHG emissions of 60 to 80 percent by 2050 globally, from the current level of almost 7 billion tons of carbon to under 2.5 billion.²⁷

Regulations are already being put into place to reach these mitigation goals. The Kyoto Protocol, the treaty developed in 1997 to reduce emissions of greenhouse gases, entered into force in February 2005. Since then, most developed nations, except the United States, Australia, Monaco, and Lichtenstein, have developed national allocation plans that specify which entities are permitted to emit greenhouse gases. The European Union also has developed a carbon trading market, the European Union Emissions Trading Scheme (EU ETS). Many of the U.S. states are taking action as well; for instance, several northeastern states announced the Regional Greenhouse Gas Initiative (RGGI) in 2003, a regional program to reduce carbon dioxide emissions through a cap-and-trade system, initially covering only power plants. Since its inception, other states have adopted or expressed interest in similar approaches. In June 2005, California's Governor, Arnold Schwarzenegger, announced a new regulatory program, the California Global Warming Solutions Act of 2006, aimed at comprehensively reducing greenhouse gas emissions at the state level.

No matter how successful the world's mitigation efforts, however, adaptation cannot be avoided—in fact, the most expensive option of all may be doing nothing. We have already begun to experience the impacts of climate change, and, because of inertia in the mechanisms of climate, even if all emissions ceased tomorrow, the time lag between the emission and its full impact in changing the climate means that there is more warming to come in the next few decades. Adaptation, like mitigation, creates financial risks and opportunities. The only choice is which cost—mitigation or adaptation—to bear, and when.

27. Allianz Group and World Wildlife Fund, *Climate Change and the Financial Sector: An Agenda for Action*, 2006, p. 6.

The Risks and Opportunities of Climate Change

The U.S. business community is beginning to recognize that climate change is already causing physical and weather-related risks, and also presents regulatory, competitive, and reputational risks, both now and in the future. Most discussions of climate change focus only, or heavily, on risks. There is some wisdom in this: many changes are needed to reduce greenhouse gas emissions enough to avoid disruptive changes, and only an understanding of the degree of disruption is likely to motivate action on the scale needed.

For example, it is increasingly important for investors to understand the shifting map of greenhouse gas emissions regulation, and how that affects corporations. Equally important are the regulatory and physical risks related to climate, and the extent to which climate change is addressed in the structures of corporate governance. In addition, as the losses mount, it is entirely likely that the victims will seek recourse in the courts, leading to increasing risks of litigation, which could be extremely costly to companies and their investors, as suggested by the high costs of asbestos and tobacco litigation.

Companies and investors face a range of risks. As mentioned above, both the risk and the reality of regulation is expanding, and litigation aimed at emitters has already begun, with climate change related suits currently against electric utilities and auto companies. Companies may also face reputational risks, or the possibility that they may be identified by their customers (as well as workers, communities, and regulators) as “bad actors” if they are not responsive to the need to address climate risks and opportunities. There are also physical risks, discussed below, from severe weather, sea level rise, ecosystem impairment, and shifting ranges of pests and diseases. Companies that may believe they face little risk may find that their supply chain is more vulnerable than they expected, or that physical or regulatory factors combine to raise the price of essential factors of production (most notably, energy).

Finally, companies that are not prepared to think about climate-related opportunities may face competitive risks, or the possibility that nimbler competitors will take advantage of new markets opened up by climate change, such as low-emissions products. Until recently, it was typical to assume that the greatest risks were faced by the largest emitting companies, and in some sense that is true: emitters are more likely to face regulatory risk, as well as risk litigation. But the severe weather of the last few years has also shown that physical risk can affect nearly any company, regardless of its emissions.

Although most attention has focused on the regulatory risks facing high emitting companies like electric utilities, auto companies, and integrated oil companies producers, the physical impacts of climate change are becoming more pressing as firms in all sectors have some degree of exposure.

How Climate Affects All Corporations: The Example of Weather

Companies are expected to disclose to their investors any event or circumstance that perturbs their financial performance. In that context, they disclose the impact of weather when an unexpected and severe event harms physical infrastructure, affects prices of energy or other factors of production, or perturbs normal business operations in unanticipated ways. Bad weather is sometimes blamed for losses that are taken below the accounting line that divides normal operations from the unusual and extraordinary. In their financial filings, most companies have not made the connection between severe weather events and climate change, and most have failed to address climate-related weather risks as a significant risk management issue.

Climate change is likely to make the weather more severe, and the impact of severe weather can leave a deep imprint on corporate financial performance. For example, there is evidence indicating that ocean warming increases the intensity of hurricanes. The 2005 U.S. hurricanes offer an excellent example. Nearly half of S&P 100 companies reported measurable impacts from these hurricanes. The experience of some industries was very predictable: for instance, oil and gas producers and services companies experienced significant damage to oil rigs and refineries from the Gulf hurricanes, as did companies with major refineries or production facilities dependent on petroleum feedstocks. Insurance companies were hit hard as well. For example:

- “Losses in the third quarter of 2005 include estimates of \$3.68 billion related to Hurricane Katrina and \$850 million, net of reinsurance recoverable of \$205 million, related to Hurricane Rita.” (*Allstate 10-Q, 11/1/2005*)
- “The Company’s pretax cost of catastrophes, net of reinsurance and including reinstatement premiums, totaled \$1.52 billion (\$1.01 billion after-tax) in the third quarter of 2005, all of which resulted from Hurricanes Katrina and Rita.” (*St. Paul Travelers 10-Q, 11/3/2005*)
- “Profits in the third quarter 2005 were adversely affected by hurricanes in the Gulf of Mexico, which required the company’s refinery in Pascagoula, Mississippi, to be shut down on two separate occasions for about 40 days during the quarter, and normal operations were not restored until mid-October. Earnings for the first nine months of 2005 were \$595 million, compared with \$889 million in the corresponding 2004 period. Increased downtime for refinery maintenance and repairs was the primary factor in the earnings decline.” (*Chevron 10-Q, 11/3/2005*)

Many would have predicted the incidence, if not the magnitude, of these effects. But the effect of the hurricanes was much broader than just these predictable sectors. Infrastructures suffered: electric utilities like Duke and TXU reported damage, as did BellSouth, which recorded a loss of \$102 million for asset impairment (damaged facilities), reduced revenue of \$51 million for service outages, and \$136 million in other expenses. Coca-Cola, Target and McDonalds, and Carnival were hit with losses, and nearly all the major financial services companies reported significant impacts. In the consumer staples sector, Kimberly Clark, Anheuser-Busch, and Procter & Gamble took hits, as did major industrials companies. Two companies—Home Depot and Emerson Electric—reported gains, partly as a result of rebuilding after the Gulf Coast hurricanes.

It is important to remember that these impacts, deep and widespread as they were, were only from hurricanes. According to the NOAA National Climatic Data Center, there have been 67 weather disasters in the United States alone that caused at least a billion dollars’ worth²⁸ of damage since 1980—and of those, 19 occurred between 2000 and 2005 (Figure 12). Only 21 of the 67 events were hurricanes. Other billion-dollar-plus events included droughts, fires, tornadoes, heat waves, floods and freezes. All together, these 67 events cost over \$546 billion, and claimed over 22,300 lives, just in the United States. Global figures are much higher; Allianz, for example, reports that climate change is responsible for about 160,000 deaths *per year*, and that total is likely to increase sharply. The number of European floods has increased from one per year to fifteen in recent decades, and UK flooding could exact annual costs of as much as €30 billion. The global implications are staggering:

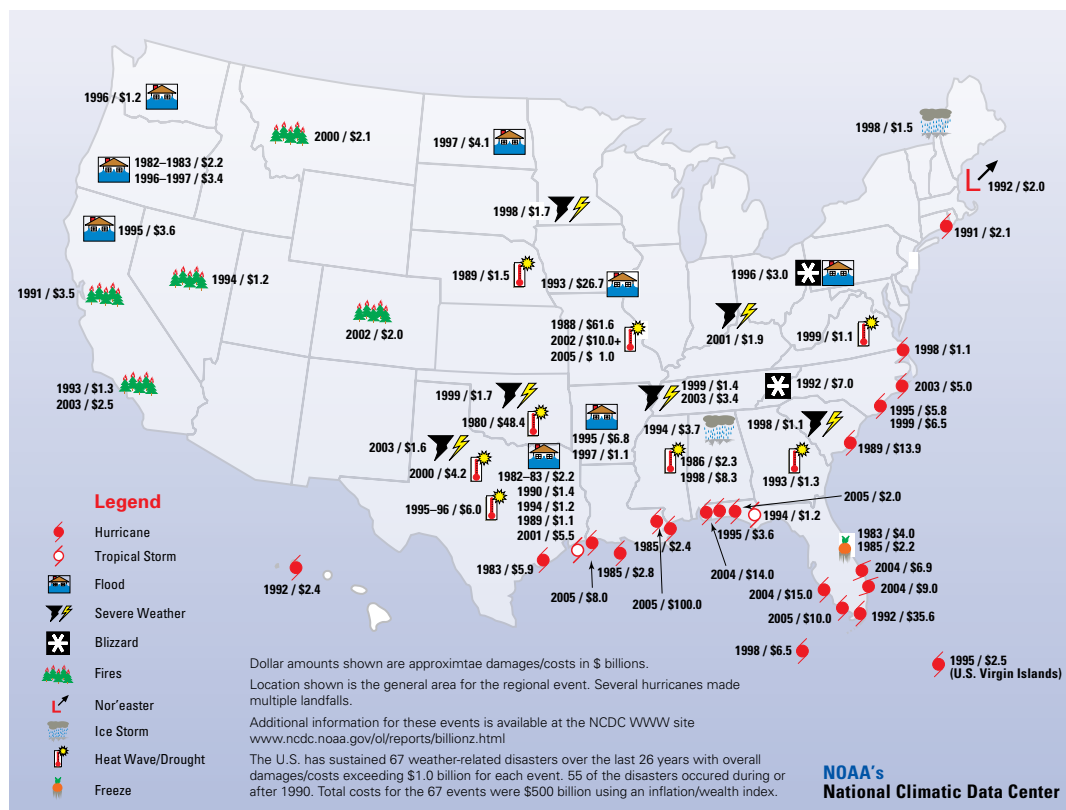
28. Costs normalized to 2002 dollars.

Although no precise estimate of all future costs can be made, a European Commission paper puts the cost of all the potential cumulative global damage [from climate change] at €74 trillion at today's value if effective action is not taken.²⁹

Information is the key to understanding and managing how climate-related weather will create risks and opportunities in investment portfolios. Because the impact of climate change is predicted to be so severe, the information demands are unusually heavy. Investors must begin to grasp the basics of how climatic changes may affect corporate operations, pinned down to the degree possible in space and time.

Figure 12: Billion Dollar Weather Disasters 1980–2005

Source: NOAA National Climate Data Center



Financial Sector Impacts

Different parts of the financial landscape have different roles to play. Certainly, any company can—and should—determine its own emissions and establish goals to reduce emissions and energy intensity, as many already have. Goldman Sachs, for example, plans to reduce its indirect greenhouse gas emissions from office operations, both owned and leased, to 7 percent below 2005 levels by 2012.³⁰ Citigroup

29. Allianz Group and World Wildlife Fund, *Climate Change and the Financial Sector: An Agenda for Action*, 2006, p. 5.

30. Goldman Sachs, "Goldman Sachs Environmental Policy Framework," http://www2.goldmansachs.com/our_firm/our_culture/corporate_citizenship/environmental_policy_framework/docs/EnvironmentalPolicyFramework.pdf.

announced that it plans to reduce its global emissions by 10% below a 2005 baseline by 2011.³¹

Beyond internal actions, however, financial companies stand to lose or gain a great deal by better understanding climate change. Many of the financial companies in the top fifth of the S&P 500 have already reported substantial (though not, in all cases, material) losses, and occasional upside possibilities, associated with increased hurricane severity (Table 4).

Table 4: Financial Sector Impacts from Hurricanes, 2004–2005

Company	Impact	Source
American International Group	<ul style="list-style-type: none"> • \$157 million of additional losses incurred resulting from increased labor and material costs related to the 2004 Florida hurricanes • AIG currently estimates that its after-tax insurance related losses, net of reinsurance recoverables and including net reinstatement premium costs, from Hurricane Wilma will be approximately \$400 million. 	10-Q, 11/14/2005
Morgan Stanley	<ul style="list-style-type: none"> • As of August 31, 2005, approximately 1% of Discover's managed general purpose credit card loans were made to cardmembers in the affected Gulf Coast region.... future levels of general purpose credit card loans, related interest and fee revenue and charge-offs may still be negatively affected. 	10-Q, 10/7/2005
MetLife	<ul style="list-style-type: none"> • MetLife's gross losses from Katrina were approximately \$340 million, primarily arising from the Company's homeowners business.... Additional hurricane-related losses may be recorded in future periods as claims are received from insured and claims to reinsurers are processed. • In addition, lawsuits, including purported class actions, have been filed in Mississippi and Louisiana challenging the property and casualty insurance industry's exclusion of water damage from homeowner's policies. While MPC is not a named party in the lawsuits, rulings in these cases may affect interpretation of its policies. 	10-Q, 11/9/2005
JP Morgan Chase	<ul style="list-style-type: none"> • Third quarter 2005 includes a \$400 million special provision related to Hurricane Katrina: Retail Financial Services \$250 million, Card Services \$100 million, Commercial Banking \$35 million, Asset & Wealth Management \$3 million and Corporate \$12 million.... Earnings for the third quarter of 2005 also included a special provision for credit losses of \$400 million, or \$0.07 per share, to cover probable credit losses due to Hurricane Katrina. 	10-Q, 11/9/2005

Insurers were often hit hardest, as expected. Allianz suggests that the action menu for insurers include (1) development of better information on future climate risks, (2) development of better risk assessment tools for climate-related catastrophes, (3) improvement of risk assessment methods to assess liabilities from greenhouse gas emissions, and (4) development of new insurance products that support low carbon technology.³² Marsh elaborates further, advocating that the insurance industry develop climate-specific products, including increased premiums for weather-related catastrophes, increasing applicable exclusions to losses associated with climate change, and increasing deductibles for weather-related losses.³³

Some insurance companies are already beginning to act. AIG has developed a company-wide climate change strategy that includes improved sophistication of catastrophe exposure modeling; allocation of

31. Citigroup website, <http://www.citigroup.com/citigroup/environment/climatechange.htm>.

32. Allianz, op. cit., p. 7.

33. Marsh, Climate Change: Business Risks and Solutions, April 2006, p. 19.

additional private equity investments to projects, technologies, and other assets that contribute to GHG emission mitigation; generation of tradable carbon credits; among many other things. And Fireman's Fund (FFIC) is the first insurer to offer products that incentivize customers to reduce energy usage and GHG emissions; for example, they now offer a property insurance policy for LEED or Green Globes Certified buildings. This new coverage will specifically apply to the unique attributes of green buildings not covered by conventional property policies, such as solar panels, green roofs, and recycled water supply systems. Because green buildings are proven to be less prone to water damage, electrical fires, or full loss due to fire, FFIC will offer a rate *credit* of 5% to these building owners.

Banks were less affected by the last hurricane season, but banks are increasingly aware of climate risks and opportunities, especially the potential for the risk burden to shift to banks and other long-term asset holders when and if insurance companies—whose product is based on annual contracts—exit high-risk markets. In addition to reducing their own carbon emissions, Allianz suggests the following menu of options for banks: (1) establishment of clear risk requirements for clients in carbon reduction, (2) development of carbon risk hedges and derivatives, and (3) facilitation of finance for public sector actions aimed at speeding the introduction of low-emission technologies.

For asset managers, climate change presents a still different matrix of risk and opportunity. It is clear, just from a cursory examination of quarterly reports from late 2005, that weather-related risks can leave deep footprints in corporate financials and performance. Allianz suggests that asset managers can (1) use corporate engagement with portfolio companies to address climate risks and opportunities, and (2) reward research providers that address and incorporate climate change in mainstream financial analysis. Both are already happening: in 2005, over thirty climate-related shareholder resolutions were filed (and nearly forty are anticipated in 2006), and the two-year-old Enhanced Analytics Initiative (EAI) provides incentives for sell-side financial analysis that incorporates environmental, social, and governance (ESG) factors. Several research providers, including Goldman Sachs, Citigroup, and UBS, have written reports specifically addressing financial risks and opportunities of climate change. Also, the United Nations Environment Programme Finance Initiative (UNEP FI) report *Show Me the Money* reviews several sell-side reports examining the impacts of climate change in several sectors, including motor vehicles, forest products, utilities, and property.³⁴ These reports illustrate well the fact that nearly every risk is accompanied by some type of opportunity.

Time Frames

Climate-related risks are often difficult to pinpoint in time. This can be a particular challenge in the business of finance, and asset management in particular. Many of the most catastrophic possibilities raised by climate change are fairly long-term: for example, substantial sea-level rise could affect hundreds of millions to billions of people (two-thirds of all inhabitants of the globe live within fifty miles of a coastline), but consensus scientific forecasts put the most dramatic sea-level rise decades in the future. Many other risks are shorter-term, but very difficult to anticipate in time and space: we know that climate change has made (and will continue to make) weather more severe, and shift the incidence of drought, flood, and fire, but these are nearly impossible to pinpoint to a specific future date and place.

34. UNEP FI, Asset Management Working Group, *Show Me the Money: Linking Environmental, Social, and Governance Issues to Company Value*, 2005.

Wall Street time, in contrast, is most commonly measured in months, or quarters, and only occasionally years. There is a substantial and growing myopia among investors and many asset managers, a tendency to discount (often to nothing) risks that cannot be confidently expected to materialize in a quarter or, at most, a year or two. While many investors maintain that their investment time horizons are long-term, few act that way, for there are few metrics or incentives that allow long-term investors to outshine those whose outlooks are much more immediate.

Because of this, climate change is often lumped with other environmental, social and governance (ESG) factors into a category termed “extra-financial,” which may imply to some that they do not have financial implications. A more realistic interpretation is that “extra-financial” means that we do not yet have a full toolkit to make quantitative assessments of the financial implications. Clearly, climate change has profound financial implications. The challenge is to find ways to incorporate these indeterminate or longer-term risks into corporate valuation, costs of capital, and portfolio management. The CDP, and the Global Framework for Climate Risk Disclosure, are excellent ways to begin.

Climate Risk and Opportunity Qualitative Analysis

As investors, asset managers, and insurers are busy developing quantitative tools to gauge climate change risk, many analysts are already using public company disclosures—such as the SEC 10-K, annual reports, websites, and sustainability reports—to estimate some of the risks and opportunities a company might face in the future. While there may be much happening behind the scenes, this analysis is based upon publicly available information disclosed by the company or other sources. While the CDP is an excellent framework for disclosing climate change risks and opportunities to stakeholders, many companies are also using these other channels to reveal pertinent climate change information.

As an example, below are two examinations of the climate change disclosures provided by Wal-Mart and Home Depot in sources *other than* the CDP questionnaire. The significant differences between the disclosure of climate change risks and opportunities between Home Depot and Wal-Mart shows a taste of what analysts look for in company disclosures. Regardless of the disclosure source, for investors to make informed decisions about the investment implications of climate change, public disclosure is a *sine qua non*.

Wal-Mart Stores Inc.

Wal-Mart, while remaining the world’s largest retailer, has always focused on the bottom line of reducing costs. With this emphasis in mind, the company has begun to understand the financial benefits of reducing energy consumption at many levels of its supply chain and retail locations. The company has committed to transforming its electricity use to 100% renewable along with establishing energy efficiency goals for its retail stores. Wal-Mart has committed to a 25% energy efficiency increase for existing stores in seven years and a 30% energy efficiency increase for new stores in four years³⁵ and thus decreasing greenhouse gas emissions at the source by buying renewable and minimizing energy use by embracing efficiency. Even though Wal-Mart is a medium to low greenhouse gas emitter, the company has also recently measured and set GHG emissions reduction targets for its company operations. The company responded to the Carbon Disclosure Project survey for the first time this year, and as described on page 25, led their peers in high quality CDP disclosure.

35. Wal-Mart Website, *Environment Overview*, 2006.

Table 5: Wal-Mart's Disclosure of Climate Change Risks and Opportunities

Description	Risks	Opportunities	Comment/illustration
Regulation		✓	The company has measured and committed to GHG reduction targets of 25% below current levels adjusted for revenue. Wal-Mart “will not wait for a mandatory control system to reduce its GHG impact*.” As a moderate GHG emitter and a company that is already committed to reductions, the company might have some future regulatory opportunity in the marketplace.
Litigation			Wal-Mart does not appear to be currently involved in any lawsuits related to climate change.
Reputation		✓	Wal-Mart has been promoting its environmental sustainability commitments and targets and has focused on the business case for minimizing energy use. These sustainability commitments and strategies have apparently helped Wal-Mart's corporate image.
Physical Impacts	✓		Wal-Mart reported some negative financial impacts from the 2005 hurricane season. The Company reported that “approximately \$40 million of costs incurred as a result of hurricanes Katrina, Rita and Wilma.”
Competition and Strategy		✓	Wal-Mart has put in place mitigation strategies for both regulatory GHG reduction impacts and potential increases in energy prices allowing the company to be positioned well for energy price increases and/or future GHG capping regulation.

* Wal-Mart Website, *Wal-Mart Takes Sustainability to the US Senate*, 2006.

† Wal-Mart, *2005 3rd Quarter 10-Q*, 2006.

Home Depot Inc.

Home Depot has 2,079 home improvement stores in the United States, Canada, Mexico, Puerto Rico, and St. Thomas. The company offers up to 40,000 different products and is designed as a one stop shop for novice do-it-yourself home improvement types to professional contractors and builders. Home Depot is the second largest retailer in the United States³⁶.

Home Depot publishes its environmental commitments on its website and has focused on the environmental impacts of the products that it sells. Home Depot has concentrated on its offering of “green” building products and the increased energy efficiency of many of its products through Energy Star rated certification. While energy efficient products are certainly growing in demand, the energy efficiency of Home Depot's internal operations are less apparent.

Home Depot, unlike Wal-Mart, has not disclosed an operating strategy related to climate change. The company has made some commitments to increasing the energy efficiency of its stores through a pilot program³⁷, but the company does not appear to have established measurement benchmarks, targets, or broad corporate climate change strategies. Home Depot is an Environmental Protection Agency SmartWay member and gives an indication of reducing energy consumption in its supply chain³⁸, but

36. Home Depot, *2005 Annual Report*.

37. Home Depot Website, *THD and the Environment*, 2006.

38. Environmental Protection Agency Website, *SmartWay Transport Partnership*, 2006.

the company does not disclose an obvious strategy or framework to address its exposure to risks and opportunities associated with climate change. Home Depot responded to the Carbon Disclosure Project this year but did not release its response for public viewing.

Table 6: Home Depot's Disclosure of Climate Change Risks and Opportunities

Description	Risks	Opportunities	Comment/illustration
Regulation	✓		Home Depot does not appear to disclose their GHG emissions or reduction targets.
Litigation			Home Depot does not appear to be currently involved in any lawsuits related to climate change.
Reputation	✓		Home Depot has been decreasing their transparency and sustainability reporting in recent years from a standalone sustainability report in 2001 to sections on its website today. While many of the company's initiatives address fundamental environmental responsibility, the absence of a broad climate change agenda might have a negative impact on its corporate image in the future.
Physical Impacts	✓	✓	Home Depot's building materials unit "had the strongest comparable store sales increase through sales growth of gypsum, roofing, concrete and insulation, due in part to the impact of one of the most destructive hurricane seasons in modern U.S. history*." While the 2005 hurricane season increased demand for building products and might have offset any potential losses due to hurricanes, Home Depot's exposure to severe storm impacts at its retail locations is very similar to Wal-Mart's.
Competition and Strategy	✓		Home Depot does mention some overall strategies to increase energy efficiency at its retail locations, but the company does not appear to disclose any broad mitigation or adaptation strategies about its climate change exposure.

* Home Depot, 2005 Annual Report.

There is clearly a significant difference in the disclosure of climate change risks and opportunities between Home Depot and Wal-Mart. While both companies might internally discuss more robust strategies to mitigate and adapt to climate change exposure, public disclosure through the CDP and or other sources is a fundamental step in evaluating and disclosing climate change risks and opportunities.

For the stakeholder, evaluating a company's climate change risks and opportunities can be a full scale public disclosure investigation. Not only is it time-consuming to dig through sustainability reports, company press releases, SEC filings, and company websites, but legitimate comparable analysis is difficult to accurately accomplish without public and consistent disclosure. The CDP provides a launching point for company analysis that allows the company to understand what is expected while providing stakeholders with a consistent view into a company's climate change strategic operations. Companies should strive to incorporate similar analyses of climate risk and opportunity into the three main methods of climate risk disclosure: SEC filings, CDP responses, and sustainability reports.

5. Recommendations for Companies and Investors

5.1. Recommendations for Companies

Respond to Investor Requests for Disclosure. The Investor Network on Climate Risk (INCR) now includes over 50 institutional investors managing \$3.7 trillion, and similar networks exist in Europe and Australia. The 2006 CDP information request was signed by 225 investors globally representing \$31 trillion dollars. Despite this clear evidence that investors view climate change as a financial issue which could affect their portfolios, less than half of the S&P 500 responded to the questionnaire. Responding to these shareholders is an important first step in signaling that management is assessing the risks and opportunities of climate change and positioning a company to thrive in a carbon constrained world.

With the October 2006 release of the Global Framework on Climate Risk Disclosure³⁹, companies have access to clear guidance from the largest U.S. public pension funds about the information investors need from companies. This includes the four key categories described in Appendix A of this report: 1) Strategic Analysis of Climate Risk and Emissions Management; 2) Historical and Future Emissions Disclosure; 3) Physical Risks; and 4) Regulatory Risks.

INCR members have requested that companies also include discussion of climate change in annual securities filings, sustainability reports and through dialogues with investors and other stakeholders.

Assess the Impacts of Climate Change on the Company. With the exception of several leading firms, responses to the questionnaire indicate that American companies have not fully assessed the impacts of climate change on their firms' competitiveness. Some industries—such as banking, telecom, and insurance—still maintain the stance that climate change will not affect them because their GHG emissions are lower than those of other industries. However, nearly every company in every industry can be affected by changing weather events and health impacts as the climate warms.

Companies should use tools such as *Managing the Risks and Opportunities of Climate Change: A Practical Toolkit for Corporate Leaders*⁴⁰ (see Table 7) to better understand how climate change may affect their business, and to better prepare for risks and capitalize on opportunities. Investors need assurance that companies are properly preparing for a future that is markedly different than the past.

This analysis also indicates that companies need to create better quantitative risk metrics to examine regulatory, competitive, and physical risks to operations, sales, and expenses. To better assess climate risk and opportunities, companies should:

1. Create a climate management team and develop board oversight
2. Measure, benchmark and inventory greenhouse gas emissions from operations, electricity use, and products
3. Compute physical, regulatory, and financial risk exposure in fixed assets, products and competitive positioning
4. Assess strategic, branding, and product opportunities related to climate change

39. Available at www.ceres.org/pub/docs/GuidetoFramework.pdf

40. Available at http://www.ceres.org/pub/docs/Ceres_corporate_toolkit_012006.pdf

Improve Corporate Governance and Strategic Management of Climate Change. Although companies did relatively well on this section of the analysis, they still failed to disclose much of the information investors are looking for. Specifically, companies need to disclose information about both risks *and* opportunities, and investors need detailed information about which members of the board and which executives are in charge of managing climate change impacts. Additionally, companies should provide a very clear corporate climate change policy statement.

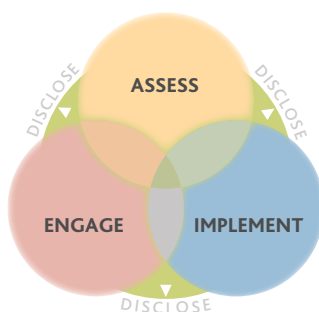
Companies should also set and disclose targets to improve energy efficiency and reduce carbon intensity in operations and products, purchase or develop clean energy and climate friendly products and services, and participate in an external voluntary greenhouse gas emissions trading program.

Manage Emissions Better. Only about a quarter of responding companies (59 companies) in this analysis disclosed an emissions reduction strategy. Reducing the concentration of GHGs in the atmosphere is the most critical step companies can take in order to reduce their exposure—and that of society—to the impacts of climate change. Investors need to know that companies have set specific GHG reduction targets. Companies should:

1. Project future emissions based on past emissions data and business plans
2. Set absolute reduction targets for operations, manufacturing, and products
3. Measure emissions annually and report to investors on progress to target
4. Use the most standardized method of emissions accounting, the WBCSD/WRI greenhouse gas protocol standard

Examine Regulatory Impacts Better. Companies can use quantitative scenario analyses to examine how impending regulatory situations may impact their capital investment choices, particularly when investing in long-lived assets. Citigroup, JP Morgan, Bernstein Research Group and others are conducting such analyses or have done so in the past. Investors need to know that management is ahead of the curve when investing billions of dollars into long-term infrastructure that may have different operating costs under future regulatory regimes.

Table 7: The 10 Steps to Corporate Climate Action



Assess:	Implement:	Disclose & Engage:
<p>Assess risk and opportunities.</p> <ol style="list-style-type: none"> 1. Create a climate management team and develop a board oversight committee. 2. Measure, benchmark and inventory greenhouse gas emissions from operations, electricity use, and products. 3. Compute physical, regulatory, and financial risk exposure in fixed assets, products and competitive positioning. 4. Assess strategic, branding, and product opportunities related to climate change. 	<p>Implement action plan for climate risk and opportunities.</p> <ol style="list-style-type: none"> 5. Develop corporate policies and procedures to reduce climate risk and increase value. 6. Create absolute GHG emission reduction goals and deadlines, and an action plan to achieve results. 7. Set goals to increase energy efficiency, purchase or develop clean energy technologies, and offset GHG emissions. 8. Engage in policy dialogues about reducing climate risk and enhancing opportunities. 	<p>Disclose your findings and engage with stakeholders.</p> <ol style="list-style-type: none"> 9. Publicly disclose assessments and implementation plans in annual financial reports and corporate responsibility reports. 10. Engage shareholders, analysts, staff and public interest groups to receive valuable feedback and develop proactive responses to climate change.

5.2 Recommendations for Investors

The Global Framework for Climate Risk Disclosure, the Carbon Disclosure Project (CDP) and the Global Reporting Initiative (GRI) all provide complementary tools for corporate climate reporting, and using these tools can help companies devise proactive corporate strategies in a world undergoing climate change. Investors can use the Global Framework to evaluate the quality of corporate disclosure found in the CDP, GRI, annual reports and other disclosure mechanisms.

In addition, investors, plan sponsors and fund managers can develop comprehensive strategies to address portfolio climate risk using the Investor Guide to Climate Risk⁴¹ or the Principles for Responsible Investment⁴² (see Boxes 9 and 10). Three key elements of a comprehensive strategy include:

Incorporate climate risk and opportunity in investment analysis and selection. Corporate management of climate risks (mitigation and adaptation) and opportunities (creation of products and services) will affect the way security prices move under different conditions. Incorporation of these considerations in the construction of diversified portfolios, and investing in companies that are best positioned to take advantage of opportunities, is an excellent way to protect and add investment value.

To accomplish this step, investors should request disclosure of climate risk and opportunities from the companies in which they invest. Investors should request this information using the three most common methods of disclosure: securities filings, sustainability reporting using the GRI Guidelines, and CDP.

Investors have also pursued this strategy by using environmental screens for portions of their stock portfolios. For example, CalPERS' Environmental Investment Initiatives include a \$500 million allocation that uses environmental screens. Other investors are rewarding improved investment manager research on environmental, social and governance issue. For example, CalSTRS recently joined the Enhanced Analytics Initiative, committing to allocate 5% of its brokerage commissions to firms that produce research on material extra-financial issues.

Address climate risk and opportunity through active share ownership. Investors can affect corporate behavior most directly through engagement with management. The simplest form of engagement is enlightened proxy voting, but there are also other direct opportunities to encourage corporate action through active engagement and shareholder proposals. Investors should develop proxy voting guidelines that address climate-related resolutions, vote proxies, and engage with corporate management in ways that encourage enlightened management of climate risk and opportunity. Investors wishing to pursue these strategies can join the Investor Network on Climate Risk (www.incr.com), a network of over 50 institutional investors who engage companies and policy makers to ensure the long-term health of their investments.

Provide shareholders and beneficiaries with open, transparent communication on how climate risks and opportunities are handled in investment and engagement. Information is the key to well-functioning financial markets. Investors should be willing to provide their own beneficiaries and investors with information on their own incorporation of climate-related variables in the investment process, just as they seek corporate disclosure of their own approaches to climate risks and opportunities.

41. Available at www.ceres.org/pub/docs/Ceres_investor_guide_072304.pdf

42. Available at www.unpri.org/

Box 8: Government's Role

Government and regulators also play a vital role in helping companies to better manage climate risk and reduce their emissions. In addition to putting a price on carbon, a policy shift that would be supported by a growing number of companies, governments can improve corporate climate change disclosure to give investors a clearer picture of the risks and opportunities companies face. In the United States, regulatory bodies such as the Securities and Exchange Commission are showing interest in the issue of climate change and have met with investors to better understand how climate change could affect portfolios and shareholders. The SEC could help improve U.S. corporate climate disclosure by offering interpretive guidance on the materiality of climate risk, enforcing current laws that require disclosure of material risks, and working with shareholders who are seeking disclosure from companies for whom climate risk should be—but is not yet—considered part of ordinary business risk analysis.

There are also a number of regulatory bodies that can support

the competitiveness of climate friendly technologies. Public Utility Commissions, Insurance Commissions, and other state and regional bodies are designed to protect the public interest. These bodies keep energy and insurance prices affordable for consumers, but they should also create policies on environmental issues that affect citizens and could raise energy and insurance prices. Unfortunately, antiquated regulations often set road blocks for new products or technologies that can help solve the climate change problem and protect citizens from harm.

For example, electric utilities, such as AEP, who have attempted to build cleaner coal plants have been stopped by their PUCs for fear of higher energy prices for consumers. Insurance commissioners have set price caps on property insurance in high-risk coastal areas, sending the wrong risk signals to consumers who think it is safe to build there. Many insurance companies have had to leave markets as a result of premiums that are too low to match the new risks posed by climate change.

Box 9: Principles for Responsible Investment

1. We will incorporate ESG issues into investment analysis and decision-making processes.

Possible actions:

- Address ESG issues in investment policy statements
- Support development of ESG-related tools, metrics, and analyses
- Assess the capabilities of internal investment managers to incorporate ESG issues
- Assess the capabilities of external investment managers to incorporate ESG issues
- Ask investment service providers (such as financial analysts, consultants, brokers, research firms, or rating companies) to integrate ESG factors into evolving research and analysis
- Encourage academic and other research on this theme

2. We will be active owners and incorporate ESG issues into our ownership policies and practices.

Possible actions:

- Develop and disclose an active ownership policy consistent with the Principles
- Exercise voting rights or monitor compliance with voting policy (if outsourcing)
- Participate in the development of policy, regulation, and standard setting (such as promoting and protecting shareholder rights)
- File shareholder resolutions consistent with long-term ESG considerations
- Engage with companies on ESG issues
- Participate in collaborative engagement initiatives
- Ask investment managers to undertake and report on ESG-related engagement

3. We will seek appropriate disclosure on ESG issues by the entities in which we invest.

Possible actions:

- Ask for standardized reporting on ESG issues (using tools such as the Global Reporting Initiative)
- Ask for ESG issues to be integrated within annual financial reports
- Ask for information from companies regarding adoption of/adherence to relevant norms, standards, codes of conduct or international initiatives (such as the UN Global Compact)
- Support shareholder initiatives and resolutions promoting ESG disclosure

4. We will promote acceptance and implementation of the Principles within the investment industry.

Possible actions:

- Include Principles-related requirements in requests for proposals (RFPs)
- Align investment mandates, monitoring procedures, performance indicators and incentive structures accordingly (for example, ensure investment management processes reflect long-term time horizons when appropriate)
- Communicate ESG expectations to investment service providers
- Revisit relationships with service providers that fail to meet ESG expectations
- Support the development of tools for benchmarking ESG integration
- Support regulatory or policy developments that enable implementation of the Principles

5. We will work together to enhance our effectiveness in implementing the Principles.

Possible actions:

- Support/participate in networks and information platforms to share tools, pool resources, and make use of investor reporting as a source of learning
- Collectively address relevant emerging issues
- Develop or support appropriate collaborative initiatives

6. We will each report on our activities and progress towards implementing the Principles.

Possible actions:

- Disclose how ESG issues are integrated within investment practices
- Disclose active ownership activities (voting, engagement, and/or policy dialogue)
- Disclose what is required from service providers in relation to the Principles
- Communicate with beneficiaries about ESG issues and the Principles
- Report on progress and/or achievements relating to the Principles using a “Comply or Explain” approach*
- Seek to determine the impact of the Principles
- Make use of reporting to raise awareness among a broader group of stakeholders

* The Comply or Explain approach requires signatories to report on how they implement the Principles, or provide an explanation where they do not comply with them.

Box 10: Investor Guide to Climate Risk: 10 Key Steps

ASSESSMENT	
Expert Advice	Find experts to raise awareness, assess climate risks and convey fiduciary duties to plan beneficiaries, investment consultants, fund managers, and portfolio companies.
Risk Assessment	Assess physical and policy risks of climate change in evaluations of companies, industry sectors, investment portfolios and property holdings.
Networking with Others	Join the Investor Network on Climate Risk and engage with others to promote climate risk assessments, greenhouse gas emissions disclosure and responsible public policy.
DISCLOSURE	
Public Statement	Declare that climate change poses fiduciary and financial risks to be addressed through research, corporate engagement and long-term investment strategies.
Public Disclosure	State methods to assess and address climate risk in plan documents and require companies to identify material risks of climate change in securities filings.
Emissions Accounting	Ask companies to disclose emissions based on the Greenhouse Gas Protocol, and to account to GHG emissions from products and property holdings.
Stakeholder Dialogue	Adopt proxy voting guidelines to urge corporate action on climate change, and maintain an active dialogue with beneficiaries, fund managers, and companies.
SOLUTIONS	
Investment Strategy	Match long-term objectives with reduced climate risk exposure to optimize investment returns, and engage fund managers and companies to adopt best practices.
Clean Energy	Direct investment capital into emerging clean energy technologies and promote energy efficient products and building practices.
Government Action	Support government actions to promote investor certainty, including mandatory policies to achieve absolute reductions in greenhouse gas emissions.

Appendix A: Global Framework for Climate Risk Disclosure

Introduction

A group of leading institutional investors from around the world released the Global Framework for Climate Risk Disclosure—a new statement on disclosure that investors expect from companies—in October 2006. Investors require this information in order to analyze a company’s business risks and opportunities resulting from climate change, as well as the company’s efforts to address those risks and opportunities. The Framework encourages standardized climate risk disclosure to make it easy for companies to provide and for investors to analyze and compare companies.

The Framework consists of four elements of disclosure:

- Total historical, current, and projected greenhouse gas emissions
- Strategic analysis of climate risk and emissions management
- Assessment of physical risks of climate change
- Analysis of risk related to the regulation of greenhouse gas emissions

The investors strongly encourage companies to apply this new Framework through existing reporting mechanisms, including:

- **Mandatory Financial Reports**—The U.S. Securities and Exchange Commission as well as regulatory and industry bodies in other countries require companies to disclose information of financial importance to the company, and many companies now include climate risk information in their standard financial reporting.
- **The Carbon Disclosure Project**—The Carbon Disclosure Project (CDP) represents an efficient process whereby many institutional investors collectively sign a single global request for disclosure of information on climate risk. In 2006, CDP sent this request to over 2,000 companies. Its web site is the largest registry of corporate greenhouse gas emissions in the world. The content of the Framework is consistent with CDP.
- **Global Reporting Initiative**—The Global Reporting Initiative (GRI) is a reporting system closely aligned with CDP that issues Sustainability Reporting Guidelines for comprehensive reporting on the economic, environmental, and social dimensions of corporate activities, products, and services. Using the GRI Guidelines, companies can disclose significant information regarding their climate risk.
- **Other Forms of Disclosure**—Companies disclose forward-looking material information important to investors through various methods, such as analyst briefings and sustainability reports. At the request of investors, many companies have also prepared special reports on climate risk.

The investors and collaborating organizations developed this Framework through a one-year Climate Risk Disclosure Initiative. The investors will continue to discuss activities to enhance climate risk disclosure through the communication networks of existing investor groups focused on climate change—the Institutional Investors Group on Climate Change (IIGCC), the Investor Network on Climate Risk (INCR), and the Investor Group on Climate Change. The investor groups will also continue discussions with two

collaborating organizations—the Carbon Disclosure Project and the Global Reporting Initiative—the leading voluntary efforts to standardize climate risk disclosure and reporting worldwide. Climate risk disclosure is a burgeoning field, as companies, investors, governments, and civil society increasingly understand the risks and opportunities that climate change poses for companies and investors. The investor groups and collaborating organizations plan to meet periodically to discuss developments in climate risk disclosure.

Development of the Framework

In May 2005, 14 leading investors and other organizations worldwide launched a new effort to improve corporate disclosure of the risks and opportunities posed by global climate change—the Climate Risk Disclosure Initiative. The CRDI Steering Committee developed a draft Framework for climate risk disclosure, and circulated it for review by investors, companies, financial analysts, and other experts. More than 50 reviewers have commented on the draft. The Steering Committee amended its initial draft substantially as a result of that expert input.

The CRDI Steering Committee included representatives from:

- California Public Employees' Retirement System
- California State Controller's Office
- California State Teachers' Retirement System
- Carbon Disclosure Project
- Ceres and the Investor Network on Climate Risk (INCR)
- Connecticut State Treasurer's Office
- Global Reporting Initiative
- Institutional Investors Group on Climate Change
- Investor Group on Climate Change
- United Nations Environment Programme Finance Initiative
- United Nations Foundation
- United Nations Fund for International Partnerships
- Universities Superannuation Scheme

Investors created this global Framework in order to clearly communicate investor expectations about the characteristics of successful corporate climate risk disclosure. They invited the CDP and GRI to participate since these initiatives represented the most appropriate voluntary reporting frameworks for disclosing climate risk information.

Climate Risk and Opportunities

Given the sweeping global nature of climate change, climate risk and opportunity is embedded in the operations of all companies. Some companies with significant emissions of greenhouse gases or energy use face current or future regulatory risks, while climate change may pose a range of physical or financial risks to other firms. These risks may include operational risk, market risk, liabilities risk, policy risk, regulatory risk, and reputational risk. In some cases, the risks to companies may be indirect. For example, even if a company is not directly subject to regulations, significant emissions in its value chain may still result in increased costs (upstream) or reduced sales (downstream). Climate change also represents significant opportunities for many firms. Some companies will develop profitable new technologies or markets as governments pursue innovative strategies to address climate change and spur technology development.

The Climate Risk Disclosure Initiative Steering Committee welcomes feedback on the Framework. For additional information on the Framework or to offer feedback, please contact:

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 +61 2 9257 1343
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Uses for the Framework

The investors supporting this Framework urge:

- Companies to use existing disclosure mechanisms to provide information that meets investors' expectations and serves their analytical needs.
- Securities regulators and governments to ensure that corporate climate risk disclosure in financial statements adheres to the Framework.
- Other investors and financial analysts to insist that corporations disclose the information called for in the Framework and then incorporate this information in their analysis.

Global Framework for Climate Risk Disclosure

While each sector and company may differ in its approach to disclosure, the most successful corporate climate risk disclosure will be transparent and make clear the key assumptions and methods used to develop it. Companies should directly engage investors and securities analysts in disclosing climate risk through both written documents and discussions.

Investors expect climate risk disclosure to allow them to analyze a company's risks and opportunities and strongly encourage that the disclosure include the following elements:

1. Emissions—As an important first step in addressing climate risk, companies should disclose their total greenhouse gas emissions. Investors can use this emissions data to help approximate the risk companies may face from future climate change regulations.

Specifically, investors strongly encourage 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.

Investors strongly encourage companies to report absolute emissions using the most widely agreed upon international accounting standard—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. If companies use a different accounting standard, they should specify the standard and the rationale for using it.

2. Strategic Analysis of Climate Risk and Emissions Management—Investors are looking for analysis that identifies companies' future challenges and opportunities associated with climate change. Investors therefore seek management's strategic analysis of climate risk, including 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.

Specifically, 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.

3. Assessment of Physical Risks of Climate Change—Climate change is beginning to cause an array of physical effects, many of which can have significant implications for companies and their investors. To help investors analyze these risks, investors encourage companies to analyze and disclose material, physical effects that climate change may have on the company’s business and its operations, including their supply chain.

Specifically, investors urge companies to begin by disclosing how climate and weather generally affect their business and its operations, including their supply chain. These effects may include the impact of changed weather patterns, such as increased number and intensity of storms; sea-level rise; water availability and other hydrological effects; changes in temperature; and impacts of health effects, such as heat-related illness or disease, on their workforce. After identifying these risk exposures, companies should describe how they could adapt to the physical risks of climate change and estimate the potential costs of adaptation.

4. Analysis of Regulatory Risks—As governments begin to address climate change by adopting new regulations that limit greenhouse gas emissions, companies with direct or indirect emissions may face regulatory risks that could have significant implications. Investors seek to understand these risks and to assess the potential financial impacts of climate change regulations on the company.

Specifically, investors strongly urge companies to disclose:

- Any known trends, events, demands, commitments, and uncertainties stemming from climate change that are reasonably likely to have a material effect on financial condition or operating performance. This analysis should include consideration of secondary effects of regulation such as increased energy and transportation costs. The analysis should incorporate the possibility that consumer demand may shift sharply due to changes in domestic and international energy markets.
- A list of all greenhouse gas regulations that have been imposed in the countries in which the company operates and an assessment of the potential financial impact of those rules.
- The company's expectations concerning the future cost of carbon resulting from emissions reductions of five, ten, and twenty percent below 2000 levels by 2015. Alternatively, companies could analyze and quantify the effect on the firm and shareowner value of a limited number of plausible greenhouse gas regulatory scenarios. These scenarios should include plausible greenhouse gas regulations that are under discussion by governments in countries where they operate. Companies should use the approach that provides the most meaningful disclosure, while also applying, where possible, a common analytic framework in order to facilitate comparative analyses across companies. Companies should clearly state the methods and assumptions used in their analyses for either alternative.

Appendix B: The Carbon Disclosure Project: Description and Questionnaire

The Carbon Disclosure Project (CDP) provides a coordinating secretariat for institutional investor collaboration regarding climate change. CDP's aim is twofold: to inform investors regarding the significant risks and opportunities presented by climate change; and to inform company management regarding the serious concerns of shareholders regarding the impact of these issues on company value.

Having launched in December 2000, CDP has four times invited institutional investors to collectively sign a single global request for disclosure of shareholder value relevant information regarding Greenhouse Gas Emissions. The information requests have historically been sent to the 500 largest global companies (the FT 500) but in 2006 CDP expanded and the information request was sent to 2000 companies globally, of which 900 answered the questions.

For more information about CDP, please contact Zoe Riddell, Managing Director, at (646) 270-3675 or zoe@cdproject.net. More information about CDP is available at www.cdproject.net.

CDP4 Questionnaire

The CDP questionnaire itself has evolved since its conception in 2002. This evolution, driven by greater investor demand for disclosure as well as increasing familiarity and corporate experience with climate change, has resulted in a longer and more comprehensive request for disclosure. The most recent CDP questionnaires have added questions pertaining to physical risk, corporate responsibility, energy costs, and innovation. The CDP4 questionnaire read as follows:

- 1. General:** How does climate change represent commercial risks and/or opportunities for your company?
- 2. Regulation:** What are the financial and strategic impacts on your company of existing regulation of GHG emissions, and what do you estimate to be the impact of proposed future regulation?
- 3. Physical risks:** How are your operations affected by extreme weather events, changes in weather patterns, rising temperatures, sea level rise and other related phenomena both now and in the future? What actions are you taking to adapt to these risks, and what are the associated financial implications?
- 4. Innovation:** What technologies, products, processes or services has your company developed, or is developing, in response to climate change?
- 5. Responsibility:** Who at board level has specific responsibility for climate change related issues and who manages your company's climate change strategies? How do you communicate the risks and opportunities from GHG emissions and climate change in your annual report and other communications channels?

6. Emissions: What is the quantity in tonnes CO₂e of annual emissions of the six main GHG's produced by your owned and controlled facilities in the following areas, listing data by country?

- *Globally*
- *Annex B countries of the Kyoto Protocol*
- *EU Emissions Trading Scheme*

To assist in comparing responses please state which methodology you are using for calculating emissions and the boundaries selected for emissions reporting. Please standardise your response data to be consistent with the accounting approach employed by the GHG Protocol (www.ghgprotocol.org). Please list GHG Protocol scope 1, 2 and 3 emissions equivalent showing full details of the sources. How has this data been audited and/or externally verified?

7. Products and services: What are your estimated emissions in tonnes CO₂e associated with the following areas and please explain the calculation methodology employed.

- *Use and disposal of your products and services?*
- *Your supply chain?*

8. Emissions reduction: What is your firm's current emissions reduction strategy? How much investment have you committed to its implementation, what are the costs/profits, what are your emissions reduction targets and time-frames to achieve them?

9. Emissions trading: What is your firm's strategy for, and expected cost/profit from trading in the EU Emissions Trading Scheme, CDM/JI projects and other trading systems, where relevant?

10. Energy costs: What are the total costs of your energy consumption, e.g. fossil fuels and electric power? Please quantify the potential impact on profitability from changes in energy prices and consumption.

[NOTE: WE WILL INCLUDE THE FOLLOWING TEXT IN THE QUESTIONNAIRE WHEN WRITING TO ELECTRIC UTILITIES:]

For electric utilities

Explain to what extent current and future emissions reductions involve a change of use in existing assets (i.e. fuel switching at existing facilities) or a need for new investment? What percentage of your revenue is derived from renewable generation in a government sponsored price support mechanism?

Appendix C: CDP Signatories

225 investors were signatories to the CDP5 information request dated February 1, 2006, including:

Aachener Grundvermögen Kapitalanlagegesellschaft mbH [Germany](#)
 Aberdeen Asset Managers [UK](#)
 ABN AMRO Bank N.V. [Netherlands](#)
 ABP Investments [Netherlands](#)
 ABRAPP – Associação Brasileira das Entidades Fechadas de Previdência Complementar [Brazil](#)
 Activest Investmentgesellschaft mbH [Germany](#)
 Acuity Investment Management Inc [Canada](#)
 AIG Global Investment Group [U.S.](#)
 Allianz Group [Germany](#)
 AMB Generali Asset Managers Kapitalanlagegesellschaft mbH [Germany](#)
 AMP Capital Investors [Australia](#)
 ANBID – National Association of Brazilian Investment Banks [Brazil](#)
 ASN Bank [Netherlands](#)
 Australia and New Zealand Banking Group Limited [Australia](#)
 Australian Ethical Investment Limited [Australia](#)
 AXA Group [France](#)
 Baillie Gifford & Co. [UK](#)
 Banco do Brazil S.A. [Brazil](#)
 Banco Fonder [Sweden](#)
 Bank Sarasin & Co, Ltd [Switzerland](#)
 BayernInvest Kapitalanlagegesellschaft mbH [Germany](#)
 BBC Pension Trust Ltd [UK](#)
 BMO Financial Group [Canada](#)
 BNP Paribas Asset Management (BNP PAM) [France](#)
 Boston Common Asset Management, LLC [U.S.](#)
 BP Investment Management Limited [UK](#)
 Brasilprev Seguros e Previdência S.A. [Brazil](#)
 British Coal Staff Superannuation Scheme [UK](#)
 British Columbia Investment Management Corporation (bcIMC) [Canada](#)
 BT Financial Group [Australia](#)
 BVI Bundesverband Investment und Asset Management e.V. [Germany](#)
 Caisse de Dépôts [France](#)
 Caisse de Dépôts et Placements du Quebec [Canada](#)
 Caixa Econômica Federal [Brazil](#)
 California Public Employees Retirement System [U.S.](#)
 California State Teachers Retirement System [U.S.](#)
 Calvert Group [U.S.](#)
 Canada Pension Plan Investment Board [Canada](#)
 Carlson Investment Management [Sweden](#)
 Carmignac Gestion [France](#)
 Catholic Superannuation Fund (CSF) [Australia](#)
 CCLA Investment Management Ltd [UK](#)
 Central Finance Board of the Methodist Church [UK](#)
 Ceres [U.S.](#)
 Cheyne Capital Management [UK](#)
 CI Mutual Funds Signature Funds Group [Canada](#)
 CIBC [Canada](#)
 Citizens Advisers Inc [U.S.](#)
 Close Brothers Group plc [UK](#)
 Comité syndical national de retraite Bâtirente [Canada](#)
 Connecticut Retirement Plans and Trust Funds [U.S.](#)
 Co-operative Insurance Society [UK](#)
 Credit Suisse Group [Switzerland](#)
 Daiwa Securities Group Inc. [Japan](#)
 Deka FundMaster Investmentgesellschaft mbH [Germany](#)
 Deka Investment GmbH [Germany](#)
 DekaBank Deutsche Girozentrale [Germany](#)
 Delta Lloyd Investment Managers GmbH [Germany](#)
 Deutsche Bank [Germany](#)
 Deutsche Postbank Privat Investment Kapitalanlagegesellschaft mbH [Germany](#)
 Development Bank of Japan [Japan](#)
 Development Bank of the Philippines (DBP) [Philippines](#)
 Dexia Asset Management [Belgium](#)
 DnB NOR [Norway](#)
 Domini Social Investments LLC [U.S.](#)
 DWS Investment GmbH [Germany](#)
 Environment Agency Active Pension Fund [UK](#)
 Erste Bank der Oesterreichischen Sparkassen AG [Austria](#)

Ethos Foundation [Switzerland](#)
 Eureko B.V. [Netherlands](#)
 F&C Asset Management [UK](#)
 FAPES – Fundacao de Assistencia e Previdencia Social do BNDES [Brazil](#)
 Fédéris Gestion d'Actifs [France](#)
 First Swedish National Pension Fund (AP1) [Sweden](#)
 Five Oceans Asset Management Pty Limited [Australia](#)
 Folksam Asset Management [Sweden](#)
 Fonds de Réserve pour les Retraites – FRR [France](#)
 Fortis Investments [Belgium](#)
 Frankfurter Service Kapitalanlagegesellschaft mbH [Germany](#)
 Franklin Templeton Investment Services Gmbh [Germany](#)
 Frater Asset Management South [Africa](#)
 Fukoku Capital Management Inc [Japan](#)
 FUNCEF [Brazil](#)
 Fundação Atlântico de Seguridade Social [Brazil](#)
 Fundação CESP [Brazil](#)
 Fundação Forluminas de Seguridade Social [Brazil](#)
 Gartmore Investment Management plc [UK](#)
 Gen Re Capital GmbH [Germany](#)
 Generation Investment Management [UK](#)
 Gerling Investment Kapitalanlagegesellschaft mbH [Germany](#)
 Goldman Sachs [U.S.](#)
 Hastings Funds Management Limited [Australia](#)
 Helaba Invest Kapitalanlagegesellschaft mbH [Germany](#)
 Henderson Global Investors [UK](#)
 Hermes Investment Management [UK](#)
 Hospitals of Ontario Pension Plan (HOOPP) [Canada](#)
 HSBC Holdings plc [UK](#)
 Hyundai Marine & Fire Insurance Co, Ltd [South Korea](#)
 I.D.E.A.M – Integral Développement Asset Management [France](#)
 Indexchange Investment AG [Germany](#)
 ING Investment Management Europe [Netherlands](#)
 Inhance Investment Management Inc [Canada](#)
 Insight Investment Management (Global) Ltd [UK](#)
 Interfaith Center on Corporate Responsibility [U.S.](#)
 Internationale Kapitalanlagegesellschaft mbH [Germany](#)
 Ixis Asset Management [France](#)
 Jupiter Asset Management [UK](#)
 KLP Insurance [Norway](#)
 LBBW – Landesbank Baden-Württemberg [Germany](#)
 Legal & General Group plc [UK](#)
 Light Green Advisors, LLC [U.S.](#)
 Local Authority Pension Fund Forum [UK](#)
 Lombard Odier Darier Hentsch & Cie [Switzerland](#)
 London Pensions Fund Authority [UK](#)
 Maine State Treasurer [U.S.](#)
 Maryland State Treasurer [U.S.](#)
 Meag Munich Ergo Kapitalanlagegesellschaft mbH [Germany](#)
 Meeschaert Asset Management [France](#)
 Meiji Yasuda Life Insurance Company [Japan](#)
 Meritas Mutual Funds [Canada](#)
 Merrill Lynch Investment Managers [UK](#)
 Mitsubishi UFJ Financial Group (MUFG) [Japan](#)
 Mitsui Sumitomo Insurance Co Ltd [Japan](#)
 Mizuho Financial Group, Inc. [Japan](#)
 Monte Paschi Asset Management S.G.R. – S.p.A [Italy](#)
 Morgan Stanley Investment Management [U.S.](#)
 Morley Fund Management [UK](#)
 Münchner Kapitalanlage AG [Germany](#)
 Munich Re [Germany](#)
 Natexis Banques Populaires [France](#)
 National Australia Bank Limited [Australia](#)
 Nedbank South [Africa](#)
 Neuberger Berman [U.S.](#)
 New York City Employees Retirement System [U.S.](#)
 New York City Teachers Retirement System [U.S.](#)
 New York State Common Retirement Fund [U.S.](#)
 Newton Investment Management Limited [UK](#)
 NFU Mutual Insurance Society [UK](#)
 Nikko Asset Management Co., Ltd. [Japan](#)
 Ontario Municipal Employees Retirement System (OMERS) [Canada](#)
 Ontario Teachers Pension Plan [Canada](#)
 Oregon State Treasurer [U.S.](#)
 Pax World Funds [U.S.](#)
 PETROS – The Fundação Petrobras de Seguridade Social [Brazil](#)
 PGGM [Netherlands](#)
 PhiTrust Finance [France](#)

Pictet & Cie (Europe) S.A. Germany	Storebrand Investments Norway
Portfolio Partners Australia	Stratus Banco de Negócios Brazil
Prado Epargne France	Sumitomo Mitsui Financial Group Japan
PREVI Caixa de Previdência dos Funcionários do Banco do Brasil Brazil	Superfund Asset Management GmbH Germany
Prudential Plc UK	Swedbank Sweden
Public Sector Superannuation Scheme and Commonwealth Superannuation Scheme Australia	Swiss Reinsurance Company Switzerland
Rabobank Netherlands	TfL Pension Fund UK
Railpen Investments UK	The Collins Foundation U.S.
Rathbone Investment Management / Rathbone Greenbank Investments UK	The Co-operative Bank UK
REAL GRANDEZA Fundação de Previdência e Assistência Social Brazil	The Dreyfus Corporation U.S.
RLAM UK	The Ethical Funds Company Canada
Robeco Netherlands	The Royal Bank of Scotland Group UK
Rockefeller & Co Socially Responsive Group U.S.	The Shiga Bank, Ltd (Japan) Japan
SAM Sustainable Asset Management Switzerland	The Wellcome Trust UK
Sanlam Investment Management South Africa	Third Swedish National Pension Fund (AP3) Sweden
Sanpaolo Imi Asset Management Sgr Italy	Threadneedle Asset Management UK
Sauren Finanzdienstleistungen Germany	Tokio Marine & Nichido Fire Insurance Co., Ltd. Japan
Schroders UK	Trillium Asset Management Corporation U.S.
Scotiabank Canada	Triodos Bank Netherlands
Scottish Widows Investment Partnership UK	Tri-State Coalition for Responsible Investing U.S.
Second Swedish National Pension Fund (AP2) Sweden	UBS AG Switzerland
Service Employees International Union U.S.	UBS Global Asset Management (Deutschland) GmbH Germany
Shinkin Asset Management Co., Ltd Japan	Unibanco Asset Management Brazil
Siemens Kapitalanlagegesellschaft mbH Germany	UniCredit Group Italy
SNS Asset Management Netherlands	Union Investment Germany
Social Awareness Investment, ClearBridge Advisors, a unit of Legg Mason Inc. U.S.	United Methodist Church General Board of Pension and Health Benefits U.S.
Société Générale Asset Management UK Limited UK	Universal-Investment-Gesellschaft mbH Germany
Société Générale Group France	Universities Superannuation Scheme (USS) UK
Sogeposte France	Vancity Group of Companies Canada
Sompo Japan Insurance Inc. Japan	Vermont State Treasurer U.S.
Standard Life Investments UK	VicSuper Proprietary Limited Australia
State Street Global Advisors U.S.	Walden Asset Management, a division of Boston Trust and Investment Management Company U.S.
State Treasurer of California U.S.	Warburg-Henderson Kapitalanlagegesellschaft mbH Germany
State Treasurer of North Carolina U.S.	WestLB Asset Management (WestAM) Germany
	Zurich Cantonal Bank Switzerland

Appendix D: S&P 500 Company Response Status To The CDP Questionnaire (as of December 31, 2006)

Company Name	Russell Sector	Russell Industry	CDP4 Response
3M Co	OTHER	MULTI-SECTOR COS	Answered Questionnaire (NP*)
Abbott Laboratories Inc	HEALTH CARE	DRUGS & PHARM	Answered Questionnaire
Ace Ltd	FINANCIAL SERVICES	INS-PROP&CASUALTY	No Response
ADC Telecommunications Inc	TECHNOLOGY	COMMUNICATION TECH	No Response
Adobe Systems Inc	TECHNOLOGY	COMP SVC SFTWR&SYS	Answered Questionnaire (NP)
Advanced Micro Devices Inc	TECHNOLOGY	ELECTRONICS SEMI-C	No Response
AES Corp	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire (NP)
Aetna Inc	HEALTH CARE	HC-MANAGEMENT SVCS	Answered Questionnaire
Affiliated Computer Services Inc	FINANCIAL SERVICES	COMP SVC SFTWR&SYS	No Response
AFLAC Inc	FINANCIAL SERVICES	INS-MULTI-LINE	Declined Participation
Agilent Technologies Inc	PRODUCER DURABLES	CNTRL&FILTR DEVICE	Provided Information
Air Products & Chemicals Inc	MATERIALS & PROC	CHEMICALS	Answered Questionnaire
Alberto Culver Co	CONSUMER DISCRET	CONSUMER PRODUCTS	Answered Questionnaire (NP)
Albertson's Inc	CONSUMER STAPLES	DRUG & GRCRY STORE	No Response
Alcoa Inc	MATERIALS & PROC	ALUMINUM	Answered Questionnaire (NP)
Allegheny Energy Inc	UTILITIES	UTIL-ELECTRICAL	Declined Participation
Allegheny Technologies Inc	MATERIALS & PROC	STEEL	Provided Information
Allergan Inc	HEALTH CARE	DRUGS & PHARM	Answered Questionnaire
Allied Waste Industries Inc	CONSUMER DISCRET	SERVICE COMMERCIAL	No Response
Allstate Corp	FINANCIAL SERVICES	INS-MULTI-LINE	No Response
Alltel Corp	UTILITIES	UTIL-TELECOMM	Answered Questionnaire
Altera Corp	TECHNOLOGY	ELECTRONICS SEMI-C	Declined Participation
Altria Group Inc	CONSUMER STAPLES	TOBACCO	Declined Participation
Amazon.com Inc	CONSUMER DISCRET	RETAIL	No Response
AMBAC Financial Group Inc	FINANCIAL SERVICES	FIN'L MISC	No Response
Ameren Corp	UTILITIES	UTIL-ELECTRICAL	Provided Information
American Electric Power Company Inc	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
American Express Corp	FINANCIAL SERVICES	DIVERSE FIN'L SVCS	Answered Questionnaire (NP)
American International Group	FINANCIAL SERVICES	INS-MULTI-LINE	Answered Questionnaire
American Power Conversion Co	PRODUCER DURABLES	CNTRL&FILTR DEVICE	No Response
American Standard Cos Inc	MATERIALS & PROC	DIVERSE MTRLS&PROC	Answered Questionnaire
Ameriprise Financial Inc	FINANCIAL SERVICES	DIVERSE FINANCIAL SERVICES	No Response
AmeriSourceBergen Corp	HEALTH CARE	DRUGS & PHARM	No Response
Amgen Inc	HEALTH CARE	BIOTECH RES & PROD	Answered Questionnaire (NP)
Amsouth Corp	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	No Response

* Not Public-- The company has denied permission for its response to be made available publicly available.

Company Name	Russell Sector	Russell Industry	CDP4 Response
Anadarko Petroleum Corp	OTHER ENERGY	OIL CRUDE PRODUCER	Answered Questionnaire
Analog Devices Inc	TECHNOLOGY	ELECTRONICS SEMI-C	Answered Questionnaire (NP)
Andrew Corp	PRODUCER DURABLES	TELECOMMUNICATIONS	No Response
Anheuser Busch Companies Inc	CONSUMER STAPLES	BEVRG-BREWERS WINE	Provided Information
AON Corp	FINANCIAL SERVICES	INS-MULTI-LINE	Answered Questionnaire
Apache Corp	OTHER ENERGY	OIL CRUDE PRODUCER	Answered Questionnaire (NP)
Apartment Investment & Mgmt Co	FINANCIAL SERVICES	REITS	No Response
Apollo Group Inc	CONSUMER DISCRET	EDUCATION SERVICES	No Response
Apple Computer Inc	TECHNOLOGY	COMPUTER TECH	Answered Questionnaire
Applied Biosystems Group— Applera Corp	TECHNOLOGY	SCIENTIFIC EQ&SUPP	Answered Questionnaire
Applied Materials Inc	PRODUCER DURABLES	PRODCTN TECH EQPMT	Answered Questionnaire
Applied Micro Circuits	TECHNOLOGY	ELEC SEMICONDUCTOR	No Response
Archer Daniels Midland Co	MATERIALS & PROC	MILL-FRUITS&GRAINS	Declined Participation
Archstone-Smith Trust	FINANCIAL SERVICES	REITS	Declined Participation
Ashland Inc	MATERIALS & PROC	DIVERSE MTRLS&PROC	Answered Questionnaire
AT&T Inc	UTILITIES	UTIL-TELECOMM	Answered Questionnaire (NP)
Autodesk Inc	TECHNOLOGY	COMP SVC SFTWR&SYS	No Response
Automatic Data Processing Inc	FINANCIAL SERVICES	FIN'L DATA PR SVCS	Provided Information
Autonation Inc	CONSUMER DISCRET	RETAIL	No Response
Autozone Inc	CONSUMER DISCRET	RETAIL	No Response
Avaya Inc	TECHNOLOGY	COMMUNICATION TECH	Answered Questionnaire
Avery Dennison Corp	MATERIALS & PROC	OFFICE SUPPLIES	Answered Questionnaire
Avon Products Inc	CONSUMER DISCRET	COSMETICS	Answered Questionnaire (NP)
Baker-Hughes Inc	OTHER ENERGY	MACHINE OILWELL EQ	Answered Questionnaire (NP)
Ball Corp	MATERIALS & PROC	DIVERSE MTRLS&PROC	No Response
Bank of America Corp	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	Answered Questionnaire
Bank of New York Co	FINANCIAL SERVICES	BANKS-NYC	Answered Questionnaire (NP)
Bard CR Inc	HEALTH CARE	MED&DENT INST/SUPP	Answered Questionnaire (NP)
Bausch & Lomb Inc	HEALTH CARE	MED&DENT INST/SUPP	Answered Questionnaire (NP)
Baxter International Inc	HEALTH CARE	BIOTECH RES & PROD	Answered Questionnaire
BB&T Corp	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	Answered Questionnaire (NP)
Bear Stearns Cos Inc	FINANCIAL SERVICES	SEC BRKRG & SRVCS	No Response
Becton Dickinson & Co	HEALTH CARE	MED&DENT INST/SUPP	Answered Questionnaire
Bed Bath & Beyond Inc	CONSUMER DISCRET	RETAIL	Provided Information
BellSouth Corp	UTILITIES	UTIL-TELECOMM	Answered Questionnaire
Bemis Inc	MATERIALS & PROC	PAPER&PLASTIC PACK	No Response
Best Buy Co Inc	CONSUMER DISCRET	RETAIL	Answered Questionnaire (NP)
Big Lots Inc	CONSUMER DISCRET	RETAIL	No Response

Company Name	Russell Sector	Russell Industry	CDP4 Response
Biogen Idec Inc	HEALTH CARE	BIOTECH RES & PROD	No Response
Biomet Inc	HEALTH CARE	MED&DENT INST/SUPP	No Response
BJ Services Co	OTHER ENERGY	MACHINE OILWELL EQ	No Response
Black & Decker Corp	CONSUMER DISCRET	HOUSEHOLD EQ&PRODS	Declined Participation
BMC Software Inc	TECHNOLOGY	COMP SVC SFTWR&SYS	Answered Questionnaire (NP)
Boeing Co	PRODUCER DURABLES	AEROSPACE	Answered Questionnaire (NP)
Boston Scientific Corp	OTHER ENERGY	MED&DENT INST/SUPP	Provided Information
Bristol-Myers Squibb Co	HEALTH CARE	DRUGS & PHARM	Answered Questionnaire
Broadcom Corp	TECHNOLOGY	ELECTRONICS SEMI-C	No Response
Brown-Forman Corp	CONSUMER STAPLES	BEVRG-DISTILLERS	No Response
Brunswick Corp	OTHER	MULTI-SECTOR COS	No Response
Burlington Northern Santa Fe	AUTO & TRANSPORT	RAILROADS	Answered Questionnaire
Calpine Corp	OTHER ENERGY	ENERGY MISC	Answered Questionnaire (NP)
Campbell Soup Co	CONSUMER STAPLES	FOODS	No Response
Capital One Financial Corp	FINANCIAL SERVICES	FINANCE COMPANIES	Declined Participation
Cardinal Health Inc	HEALTH CARE	DRUGS & PHARM	Answered Questionnaire (NP)
Caremark Rx Inc	HEALTH CARE	HC-MANAGEMENT SVCS	Answered Questionnaire (NP)
Carnival Corp	AUTO & TRANSPORT	LEISURE TIME	Answered Questionnaire
Caterpillar Inc	PRODUCER DURABLES	MACHNRY-CNSTRCTN	Answered Questionnaire
Cendant Corp	CONSUMER DISCRET	SERVICE COMMERCIAL	No Response
Centerpoint Energy Inc	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
Centex Corp	PRODUCER DURABLES	HOMEBUILDING	Provided Information
CenturyTel, Inc	UTILITIES	UTIL-TELECOMM	No Response
Chevron Corp	INTEGRATED OILS	OIL-INTEGR INT'L	Answered Questionnaire
Chiron	HEALTH CARE	BIOTECH RESEARCH & PROD	No Response
Chubb Corp	FINANCIAL SERVICES	INS-PROP&CASUALTY	Declined Participation
Ciena Corp	TECHNOLOGY	COMMUNICATION TECH	Answered Questionnaire (NP)
CIGNA Corp	FINANCIAL SERVICES	INS-MULTI-LINE	Provided Information
Cincinnati Financial Corp	FINANCIAL SERVICES	INS-MULTI-LINE	Provided Information
Cintas Corp	CONSUMER DISCRET	SERVICE COMMERCIAL	No Response
Circuit City Stores-Circuit City Group	CONSUMER DISCRET	RETAIL	No Response
Cisco Systems Inc	TECHNOLOGY	COMMUNICATION TECH	Answered Questionnaire
CIT Group Inc	FINANCIAL SERVICES	DIVERSE FIN'L SVCS	No Response
Citigroup Inc	FINANCIAL SERVICES	DIVERSE FIN'L SVCS	Answered Questionnaire
Citizens Communications Co	UTILITIES	UTIL-TELECOMM	No Response
Citrix Systems Inc	TECHNOLOGY	COMP SVC SFTWR&SYS	Answered Questionnaire
Clear Channel Communications Inc	CONSUMER DISCRET	RADIO&TV BROADCAST	Answered Questionnaire (NP)
Clorox Co	CONSUMER STAPLES	SOAPS HSEHLD CHEMS	No Response
CMS Energy Corp	UTILITIES	UTIL-ELECTRICAL	Declined Participation

Company Name	Russell Sector	Russell Industry	CDP4 Response
Coach Inc	CONSUMER DISCRET	TEXTILE-APPRL MFRS	No Response
COCA-COLA COMPANY	CONSUMER STAPLES	BEVRG-SOFT DRINKS	Answered Questionnaire
Coca-Cola Enterprises Inc	CONSUMER STAPLES	BEVRG-SOFT DRINKS	Answered Questionnaire
Colgate Palmolive Co	CONSUMER STAPLES	SOAPS HSEHLD CHEMS	Answered Questionnaire
Comcast Corp. Cl. A	UTILITIES	UTIL-CABLETV&RADIO	Answered Questionnaire
Comerica Inc	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	No Response
Compass Bancshares Inc	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	No Response
Computer Associates	TECHNOLOGY	COMP SVC SFTWR&SYS	Answered Questionnaire
Computer Sciences Corp	TECHNOLOGY	COMP SVC SFTWR&SYS	No Response
Compuware Corp	TECHNOLOGY	COMP SVC SFTWR&SYS	No Response
Converse Technology Inc	TECHNOLOGY	COMMUNICATION TECH	No Response
ConAgra Foods Inc	CONSUMER STAPLES	FOODS	No Response
ConocoPhillips	INTEGRATED OILS	OIL-INTEGR DOMESTC	Answered Questionnaire
Consolidated Edison Inc	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
Constellation Brands Inc	CONSUMER STAPLES	BEVRG-BREWERS WINE	No Response
Constellation Energy Group	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
Convergys Corp	CONSUMER DISCRET	SERVICE COMMERCIAL	Answered Questionnaire (NP)
Cooper Industries Ltd-Cl A	PRODUCER DURABLES	ELECTRICAL EQUIP	Answered Questionnaire (NP)
Cooper Tire and Rubber Co	AUTO & TRANSPORT	TIRES & RUBBER	No Response
Corning Inc	TECHNOLOGY	COMMUNICATION TECH	Answered Questionnaire
Costco Wholesale Corp	CONSUMER DISCRET	RETAIL	No Response
Countrywide Financial Corp	FINANCIAL SERVICES	SEC BRKRG & SRVCS	Declined Participation
Coventry Health Care Inc	HEALTH CARE	MED&DENT SERVICES	No Response
CSX Corp	AUTO & TRANSPORT	RAILROADS	No Response
Cummins Inc	PRODUCER DURABLES	MACHNRY-ENGINES	Answered Questionnaire
CVS Corp	CONSUMER STAPLES	DRUG & GRCRY STORE	No Response
Dana Corp	AUTO & TRANSPORT	AUTO PARTS-ORIG EQUIP	No Response
Danaher Corp	PRODUCER DURABLES	DIVRSFIED PRODUCTN	Answered Questionnaire (NP)
Darden Restaurants Inc	CONSUMER DISCRET	RESTAURANTS	Provided Information
Deere & Co	PRODUCER DURABLES	MACHNRY-AGRCLTR	Provided Information
Dell Inc	TECHNOLOGY	COMPUTER TECH	Answered Questionnaire
Devon Energy Corp	OTHER ENERGY	OIL CRUDE PRODUCER	Answered Questionnaire
Dillard's Inc	CONSUMER DISCRET	RETAIL	No Response
Disney (Walt) Co	CONSUMER DISCRET	ENTERTAINMENT	Answered Questionnaire
Dollar General Corp	CONSUMER DISCRET	RETAIL	No Response
Dominion Resources Inc	UTILITIES	UTIL-ELECTRICAL	Provided Information
Donnelley RR & Sons Co	CONSUMER DISCRET	PUBLISH-MISC	No Response
Dover Corp	PRODUCER DURABLES	DIVRSFIED PRODUCTN	No Response
Dow Chemical	MATERIALS & PROC	CHEMICALS	Answered Questionnaire

Company Name	Russell Sector	Russell Industry	CDP4 Response
Dow Jones & Company Inc	FINANCIAL SERVICES	FIN'L INFO SRVCS	No Response
DR Horton Inc	PRODUCER DURABLES	HOMEBUILDING	No Response
DTE Energy Co	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
Duke Energy Corp	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
DuPont de Nemours & Co E.I.	MATERIALS & PROC	CHEMICALS	Answered Questionnaire
Dynegy Inc	OTHER ENERGY	UTIL-GAS PIPELINES	Provided Information
E*Trade Financial Corporation	FINANCIAL SERVICES	SEC BRKRG & SRVCS	No Response
Eastman Chemical Co	MATERIALS & PROC	CHEMICALS	Answered Questionnaire
Eastman Kodak Co	CONSUMER DISCRET	PHOTOGRAPHY	Answered Questionnaire
Eaton Corp	OTHER	MULTI-SECTOR COS	Answered Questionnaire (NP)
Ebay Inc	CONSUMER DISCRET	SERVICE COMMERCIAL	Answered Questionnaire
Ecolab Inc	MATERIALS & PROC	CHEMICALS	Answered Questionnaire
Edison International	UTILITIES	UTIL-ELECTRICAL	Provided Information
El Paso Corporation	OTHER ENERGY	UTIL-GAS PIPELINES	Declined Participation
Electronic Arts Inc	CONSUMER DISCRET	CONSUMER ELECTRNCS	Declined Participation
Electronic Data Systems Corp	TECHNOLOGY	COMPUTER TECH	No Response
Eli Lilly & Co	HEALTH CARE	DRUGS & PHARM	Answered Questionnaire
EMC Corp-Mass	TECHNOLOGY	COMPUTER TECH	Provided Information
Emerson Electric Co	PRODUCER DURABLES	ELECTRICAL EQUIP	Answered Questionnaire
Engelhard Corp	MATERIALS & PROC	DIVERSE MTRLS&PROC	No Response
Entergy Corp	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
EOG Resources Inc	OTHER ENERGY	OIL CRUDE PRODUCER	Declined Participation
Equifax Inc	FINANCIAL SERVICES	FIN'L INFO SRVCS	No Response
Equity Office Properties Trust	FINANCIAL SERVICES	REITS	Answered Questionnaire
Equity Residential	FINANCIAL SERVICES	REITS	No Response
Exelon Corp	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
Express Scripts Inc	HEALTH CARE	HC-SERVICES	No Response
Exxon Mobil Corp	INTEGRATED OILS	OIL-INTEGR INT'L	Answered Questionnaire
Family Dollar Stores Inc	CONSUMER DISCRET	RETAIL	No Response
Fannie Mae (Federal National Mortgage Assn)	FINANCIAL SERVICES	FIN'L MISC	Declined Participation
Federated Department Stores Inc	CONSUMER DISCRET	RETAIL	Provided Information
Federated Investors Inc PA	FINANCIAL SERVICES	INVSTMNT MGMT COS	Answered Questionnaire
FedEx Corp	AUTO & TRANSPORT	AIR TRANSPORT	Answered Questionnaire (NP)
Fifth Third Bancorp	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	No Response
First Data Corp	FINANCIAL SERVICES	FIN'L DATA PR SVCS	No Response
First Horizon National Corp	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	Answered Questionnaire (NP)
FirstEnergy Corp	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
Fiserv Inc	FINANCIAL SERVICES	FIN'L DATA PR SVCS	Answered Questionnaire (NP)

Company Name	Russell Sector	Russell Industry	CDP4 Response
Fisher Scientific Intl	CONSUMER DISCRET	RETAIL	No Response
Fluor Corp	MATERIALS & PROC	ENGR & CNTRCT SVC	No Response
Ford Motor Company	AUTO & TRANSPORT	AUTOMOBILES	Answered Questionnaire
Forest Laboratories Inc	HEALTH CARE	DRUGS & PHARM	Answered Questionnaire (NP)
Fortune Brands, Inc	OTHER	MULTI-SECTOR COS	Provided Information
FPL Group Inc	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
Franklin Resources Inc	FINANCIAL SERVICES	SEC BRKRG & SRVCS	No Response
Freddie Mac	FINANCIAL SERVICES	FIN'L MISC	Provided Information
Freeport McMoRan Copper & Gold Inc	MATERIALS & PROC	COPPER	No Response
Freescale Semiconductor Inc	PRODUCER DURABLES	ELECTRONICS SEMI-C	Answered Questionnaire
Gannett Co Inc	CONSUMER DISCRET	PUBLISH-NEWSPAPERS	Declined Participation
Gap Inc	CONSUMER DISCRET	RETAIL	Answered Questionnaire
Gateway Inc	TECHNOLOGY	COMPUTER TECH	No Response
General Dynamics Corp	TECHNOLOGY	ELECTRONICS TECH	Provided Information
General Electric Corp (GE)	OTHER	MULTI-SECTOR COS	Answered Questionnaire
General Mills Inc	CONSUMER STAPLES	FOODS	Answered Questionnaire
General Motors Corp	AUTO & TRANSPORT	AUTOMOBILES	Answered Questionnaire
Genuine Parts Co	AUTO & TRANSPORT	AUTO PARTS-AFTRMKT	No Response
Genzyme Corp – General Division	HEALTH CARE	BIOTECH RES & PROD	Answered Questionnaire (NP)
Georgia Pacific	MATERIALS AND PROC	FOREST PRODUCTS	No Response
Gilead Sciences Inc	HEALTH CARE	DRUGS & PHARM	Answered Questionnaire
Golden West Financial Corp	FINANCIAL SERVICES	SAVINGS & LOANS	Provided Information
Goodrich Corporation	PRODUCER DURABLES	AEROSPACE	No Response
Goodyear Tire & Rubber Co	AUTO & TRANSPORT	TIRES & RUBBER	Answered Questionnaire (NP)
GOOGLE INC-CL A	CONSUMER DISCRET	CONSUMER ELECTRNCS	No Response
Grainger WW Inc	PRODUCER DURABLES	MISC EQUIPMENT	Answered Questionnaire (NP)
H&R Block Inc	FINANCIAL SERVICES	FIN'L MISC	Answered Questionnaire
Halliburton Co	OTHER ENERGY	MACHINE OILWELL EQ	Answered Questionnaire
Harley Davidson Inc	AUTO & TRANSPORT	REC VEHICLE & BOAT	No Response
Harrah's Entertainment Inc	CONSUMER DISCRET	CASINOS & GAMBLING	No Response
Hartford Financial Services Group Inc	FINANCIAL SERVICES	INS-MULTI-LINE	Provided Information
Hasbro Inc	CONSUMER DISCRET	TOYS	No Response
HCA Inc	HEALTH CARE	HC-FACILITIES	Declined Participation
Health Management Associates Inc	HEALTH CARE	HC-FACILITIES	No Response
Heinz HJ Co	CONSUMER STAPLES	FOODS	Answered Questionnaire
Hercules Inc	MATERIALS & PROC	CHEMICALS	No Response
Hershey Co/The	CONSUMER STAPLES	FOODS	No Response
Hess Corp	INTEGRATED OILS	OIL-INTEGR DOMESTC	Answered Questionnaire
Hewlett-Packard Co	TECHNOLOGY	COMPUTER TECH	Answered Questionnaire

Company Name	Russell Sector	Russell Industry	CDP4 Response
Hilton Hotels Corp	CONSUMER DISCRET	HOTEL/MOTEL	No Response
Home Depot Inc	CONSUMER DISCRET	RETAIL	Answered Questionnaire (NP)
Honeywell International Inc	OTHER	MULTI-SECTOR COS	Provided Information
Hospira	HEALTH CARE	DRUGS & PHARM	Answered Questionnaire
Humana Inc	HEALTH CARE	HC-MANAGEMENT SVCS	Answered Questionnaire (NP)
Huntington Bancshares Inc	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	Provided Information
Illinois Tool Works Inc	PRODUCER DURABLES	MACHNRY-INDUSTRIAL	Answered Questionnaire (NP)
IMS Health Inc	HEALTH CARE	HC-MANAGEMENT SVCS	No Response
Ingersoll Rand Co CL A	PRODUCER DURABLES	MISC EQUIPMENT	Provided Information
Intel Corp	TECHNOLOGY	ELECTRONICS SEMI-C	Answered Questionnaire
International Business Machines Corp	TECHNOLOGY	COMPUTER TECH	Answered Questionnaire
International Flavors & Fragrances Inc	CONSUMER DISCRET	CONSUMER PRODUCTS	No Response
International Game Technology	CONSUMER DISCRET	CASINOS & GAMBLING	No Response
International Paper Co	MATERIALS & PROC	PAPER	Answered Questionnaire
Interpublic Group of Companies Inc	CONSUMER DISCRET	ADVERTISING AGENCY	No Response
Intuit Inc	TECHNOLOGY	COMP SVC SFTWR&SYS	No Response
ITT Industries Inc	OTHER	MULTI-SECTOR COS	Answered Questionnaire
Jabil Circuit Inc	TECHNOLOGY	ELECTRONICS SEMI-C	No Response
Janus Capital Group Inc	FINANCIAL SERVICES	INVSTMNT MGMT COS	Declined Participation
JDS Uniphase Corp	TECHNOLOGY	COMMUNICATION TECH	Declined Participation
Jefferson-Pilot-Financial Services	INSURANCE	LIFE	No Response
Johnson & Johnson	HEALTH CARE	DRUGS & PHARM	Answered Questionnaire
Johnson Controls Inc	OTHER	MULTI-SECTOR COS	Answered Questionnaire
Jones Apparel Group Inc	CONSUMER DISCRET	TEXTILE-APPRL MFRS	No Response
JPMorgan Chase	FINANCIAL SERVICES	BANKS-NYC	Answered Questionnaire (NP)
KB Home	PRODUCER DURABLES	HOMEBUILDING	Provided Information
Kellogg Co	CONSUMER STAPLES	FOODS	Answered Questionnaire
Kerr-McGee Corp	INTEGRATED OILS	OIL CRUDE PRODUCER	No Response
KeyCorp	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	No Response
Keyspan Corp	UTILITIES	UTIL-GAS DISTRBTR	Answered Questionnaire
Kimberly-Clark Corp	CONSUMER DISCRET	CONSUMER PRODUCTS	Answered Questionnaire
Kinder Morgan Inc	UTILITIES	UTIL-GAS DISTRBTR	No Response
King Pharmaceuticals Inc	HEALTH CARE	DRUGS & PHARM	No Response
KLA -Tencor Corp	PRODUCER DURABLES	PRODCN TECH EQPMT	No Response
Knight Ridder Inc	CONSUMER DISCRET	PUBLISH-NEWSPAPERS	No Response
Kohl's Corp	CONSUMER DISCRET	RETAIL	No Response
Kroger Co	CONSUMER STAPLES	DRUG & GRCRY STORE	Provided Information
L-3 Communications Hldgs Inc	TECHNOLOGY	COMMUNICATION TECH	No Response
Laboratory Corp of America Hldgs	HEALTH CARE	HC-FACILITIES	No Response

Company Name	Russell Sector	Russell Industry	CDP4 Response
Leggett & Platt Inc	CONSUMER DISCRET	HOUSEHOLD FRNSHNGS	Provided Information
Lehman Brothers Hldgs Inc	FINANCIAL SERVICES	SEC BRKRG & SRVCS	Declined Participation
Lennar Corp	PRODUCER DURABLES	HOMEBUILDING	No Response
Lexmark International Group Inc	PRODUCER DURABLES	OFFICE FURN&BUS EQ	Answered Questionnaire
Limited Brands, Inc.	CONSUMER DISCRET	RETAIL	No Response
Lincoln National Corp	FINANCIAL SERVICES	INS-MULTI-LINE	Declined Participation
Linear Technology Corp	TECHNOLOGY	ELECTRONICS SEMI-C	No Response
Liz Claiborne Inc	CONSUMER DISCRET	TEXTILE-APPRL MFRS	Answered Questionnaire (NP)
Lockheed Martin Corp	PRODUCER DURABLES	AEROSPACE	Provided Information
Loews Corp	FINANCIAL SERVICES	INS-MULTI-LINE	No Response
Louisiana-Pacific Corp	MATERIALS & PROC	FOREST PRODUCTS	Answered Questionnaire
Lowe's Companies Inc	CONSUMER DISCRET	RETAIL	Provided Information
LSI Logic Corp	TECHNOLOGY	ELECTRONICS SEMI-C	No Response
Lucent Technologies Inc	TECHNOLOGY	COMMUNICATION TECH	Answered Questionnaire
M & T Bank Corp	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	No Response
Manor Care Inc	HEALTH CARE	HC-FACILITIES	No Response
Marathon Oil Corp	INTEGRATED OILS	OIL-INTEGR INT'L	Answered Questionnaire
Marriott Intl Inc	CONSUMER DISCRET	HOTEL/MOTEL	Answered Questionnaire
Marsh & McLennan Companies Inc	FINANCIAL SERVICES	DIVERSE FIN'L SVCS	Answered Questionnaire
Marshall & Ilsley Corp	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	Answered Questionnaire (NP)
Masco Corp	MATERIALS & PROC	BUILDING MATERIALS	Answered Questionnaire
Mattel Inc	CONSUMER DISCRET	TOYS	No Response
Maxim Integrated Products Inc	TECHNOLOGY	ELECTRONICS SEMI-C	Answered Questionnaire (NP)
Mbia Inc	FINANCIAL SERVICES	FIN'L MISC	Answered Questionnaire (NP)
McCormick & Company Inc	CONSUMER STAPLES	FOODS	No Response
McDonald's Corp	CONSUMER DISCRET	RESTAURANTS	Answered Questionnaire (NP)
McGraw-Hill Companies Inc	CONSUMER DISCRET	PUBLISH-MISC	Provided Information
MCKESSON CORP	HEALTH CARE	HC-SERVICES	Provided Information
Meadwestvaco Corp	MATERIALS & PROC	PAPER	Answered Questionnaire
Medco Health Solutions Inc	HEALTH CARE	HC-SERVICES	Provided Information
Medimmune Inc	HEALTH CARE	DRUGS & PHARM	No Response
Medtronic Inc	HEALTH CARE	ELECTR MED SYSTEMS	Answered Questionnaire (NP)
Mellon Financial Corp	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	Answered Questionnaire
Merck & Co Inc	HEALTH CARE	DRUGS & PHARM	Answered Questionnaire
Mercury Interactive	TECHNOLOGY	COMPUTER SERVICES, SOFTWARE, AND SYSTEMS	No Response
Meredith Corp	CONSUMER DISCRET	PUBLISH-MISC	Declined Participation
Merrill Lynch & Co Inc	FINANCIAL SERVICES	DIVERSE FIN'L SVCS	Answered Questionnaire
Metropolitan Life (MetLife) Insurance Co Inc	FINANCIAL SERVICES	DIVERSE FIN'L SVCS	Declined Participation

Company Name	Russell Sector	Russell Industry	CDP4 Response
MGIC Investment Corp Wis	FINANCIAL SERVICES	FIN'L MISC	Answered Questionnaire (NP)
Micron Technology Inc	TECHNOLOGY	ELECTRONICS SEMI-C	No Response
Microsoft Corp	TECHNOLOGY	COMP SVC SFTWR&SYS	Answered Questionnaire
Millipore Corp	TECHNOLOGY	BIOTECH RES & PROD	Answered Questionnaire
Molex Inc	PRODUCER DURABLES	ELECTRICAL EQUIP	Provided Information
Molson Coors Brewery Inc	CONSUMER STAPLES	BEVRG-BREWERS WINE	Answered Questionnaire
Monsanto Co	MATERIALS & PROC	AGRCLTR FISH&RANCH	Provided Information
Monster Worldwide Inc	CONSUMER DISCRET	SERVICE COMMERCIAL	No Response
Moody's Corp	FINANCIAL SERVICES	FIN'L INFO SRVCS	Provided Information
Morgan Stanley	FINANCIAL SERVICES	DIVERSE FIN'L SVCS	Answered Questionnaire
Motorola Inc	TECHNOLOGY	COMMUNICATION TECH	Answered Questionnaire
Murphy Oil Corp	INTEGRATED OILS	OIL-INTEGR DOMESTC	No Response
Mylan Laboratories Inc	HEALTH CARE	DRUGS & PHARM	No Response
Nabors Industries Ltd	OTHER ENERGY	OFFSHORE DRILLING	No Response
National City Corp	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	Answered Questionnaire (NP)
National Oilwell Varco Inc	OTHER ENERGY	MACHINE OILWELL EQ	No Response
National Semiconductor Corp	TECHNOLOGY	ELECTRONICS SEMI-C	No Response
Navistar Intl Corp	AUTO & TRANSPORT	AUTO TRUCKS&PARTS	Answered Questionnaire
NCR Corp	TECHNOLOGY	COMMUNICATION TECH	Answered Questionnaire
Network Appliance Inc	TECHNOLOGY	COMPUTER TECH	No Response
New York Times Co	CONSUMER DISCRET	PUBLISH-NEWSPAPERS	Answered Questionnaire
Newell Rubbermaid Inc	CONSUMER DISCRET	HOUSEHOLD FRNSHNGS	No Response
Newmont Mining Corp Holding	MATERIALS & PROC	GOLD	Answered Questionnaire
News Corp	CONSUMER DISCRET	RADIO&TV BROADCAST	Provided Information
Nicor Inc	UTILITIES	UTIL-GAS DISTRBTR	Answered Questionnaire
Nike Inc	CONSUMER DISCRET	SHOES	Answered Questionnaire
NiSource Inc	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
Noble Corp	OTHER ENERGY	OFFSHORE DRILLING	Answered Questionnaire
Nordstrom Inc	CONSUMER DISCRET	RETAIL	No Response
Norfolk Southern Corp	AUTO & TRANSPORT	RAILROADS	Provided Information
North Fork Bancorporation Inc	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	No Response
Northern Trust Corp	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	Answered Questionnaire
NORTHROP GRUMMAN CORP	PRODUCER DURABLES	AEROSPACE	Answered Questionnaire
Novell Inc	TECHNOLOGY	COMP SVC SFTWR&SYS	No Response
Novellus Systems Inc	PRODUCER DURABLES	PRODCN TECH EQPMT	Answered Questionnaire (NP)
Nucor Corp	MATERIALS & PROC	STEEL	No Response
NVIDIA Corp	TECHNOLOGY	COMPUTER TECH	No Response
Occidental Petroleum Corp	INTEGRATED OILS	OIL-INTEGR DOMESTC	Answered Questionnaire
Office Depot Inc	CONSUMER DISCRET	RETAIL	Answered Questionnaire

Company Name	Russell Sector	Russell Industry	CDP4 Response
OfficeMax Inc	MATERIALS & PROC	FOREST PRODUCTS	No Response
Omnicom Group Inc	CONSUMER DISCRET	ADVERTISING AGENCY	Answered Questionnaire (NP)
Oracle Corp	TECHNOLOGY	COMP SVC SFTWR&SYS	Answered Questionnaire
Paccar Inc	AUTO & TRANSPORT	AUTO TRUCKS&PARTS	No Response
Pactiv Corp	MATERIALS & PROC	PAPER&PLASTIC PACK	No Response
Pall Corp	PRODUCER DURABLES	CNTRL&FILTR DEVICE	No Response
Parametric Technology Corp	TECHNOLOGY	COMP SVC SFTWR&SYS	No Response
Parker-Hannifin Corp	PRODUCER DURABLES	CNTRL&FILTR DEVICE	Answered Questionnaire (NP)
Patterson Cos Inc	HEALTH CARE	MED&DENT INST/SUPP	No Response
Paychex Inc	FINANCIAL SERVICES	FIN'L DATA PR SVCS	Declined Participation
Penney JC Inc (Holding Co)	CONSUMER DISCRET	RETAIL	Answered Questionnaire
Peoples Energy Corp	UTILITIES	UTIL-GAS DISTRBTR	No Response
Pepsi Bottling Group Inc	CONSUMER STAPLES	BEVRG-SOFT DRINKS	No Response
PepsiCo Inc	CONSUMER STAPLES	BEVRG-SOFT DRINKS	Answered Questionnaire
PerkinElmer Inc	TECHNOLOGY	ELECTRONICS TECH	Answered Questionnaire (NP)
Pfizer Inc	HEALTH CARE	DRUGS & PHARM	Answered Questionnaire
PG&E Corp	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
Phelps Dodge Corp	MATERIALS & PROC	COPPER	Answered Questionnaire
Pinnacle West Capital Corp	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
Pitney Bowes Inc	PRODUCER DURABLES	OFFICE FURN&BUS EQ	No Response
Plum Creek Timber Co	FINANCIAL SERVICES	REITS	No Response
PMC Sierra Inc	TECHNOLOGY	ELECTRONICS SEMI-C	No Response
PNC Financial Services Group	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	Answered Questionnaire
PPG Industries Inc	MATERIALS & PROC	PAINTS & COATINGS	Answered Questionnaire
PPL Corp	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
Praxair Inc	MATERIALS & PROC	CHEMICALS	Answered Questionnaire
Principal Financial Group Inc	FINANCIAL SERVICES	INS-LIFE	No Response
Procter & Gamble Co	CONSUMER STAPLES	SOAPS HSEHLD CHEMS	Answered Questionnaire
Progress Energy Inc	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
Progressive Corp Ohio	FINANCIAL SERVICES	INS-PROP&CASUALTY	Declined Participation
ProLogis	FINANCIAL SERVICES	REITS	Answered Questionnaire
Prudential Financial Inc	FINANCIAL SERVICES	INS-LIFE	Declined Participation
Public Service Enterprise Group Inc	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
Public Storage Inc	FINANCIAL SERVICES	REITS	No Response
Pulte Homes	PRODUCER DURABLES	HOMEBUILDING	No Response
QLogic Corp	TECHNOLOGY	COMP SVC SFTWR&SYS	No Response
Qualcomm Inc	TECHNOLOGY	COMMUNICATION TECH	Answered Questionnaire
Quest Diagnostics Inc	HEALTH CARE	HC-FACILITIES	No Response
Qwest Communications Intl Inc	UTILITIES	UTIL-TELECOMM	Answered Questionnaire

Company Name	Russell Sector	Russell Industry	CDP4 Response
RadioShack Corp	CONSUMER DISCRET	RETAIL	No Response
Raytheon Co	TECHNOLOGY	ELECTRONICS TECH	Answered Questionnaire
Reebok Int'l	CONSUMER DISC	SHOES	No Response
Regions Financial Corp	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	Declined Participation
Reynolds American Inc	CONSUMER STAPLES	TOBACCO	No Response
Robert Half International Inc	CONSUMER DISCRET	SERVICE COMMERCIAL	Provided Information
Rockwell Automation Inc	TECHNOLOGY	ELECTRONICS TECH	No Response
Rockwell Collins Inc	PRODUCER DURABLES	AEROSPACE	Answered Questionnaire
Rohm & Haas Co	MATERIALS & PROC	CHEMICALS	Answered Questionnaire (NP)
Rowan Companies Inc	OTHER ENERGY	MACHINE OILWELL EQ	No Response
Ryder System	FINANCIAL SERVICES	RENTAL SVCS COMML	Provided Information
Sabre Holdings Corp	CONSUMER DISCRET	SERVICE COMMERCIAL	No Response
Safeco Corp	FINANCIAL SERVICES	INS-MULTI-LINE	Answered Questionnaire
Safeway Inc	CONSUMER STAPLES	DRUG & GRCRY STORE	No Response
Sanmina-SCI Corp	TECHNOLOGY	ELECTRONICS	Answered Questionnaire (NP)
Sara Lee Corp	CONSUMER STAPLES	FOODS	Answered Questionnaire
Schering-Plough Corp	HEALTH CARE	DRUGS & PHARM	Answered Questionnaire
Schlumberger Ltd	OTHER ENERGY	MACHINE OILWELL EQ	Answered Questionnaire (NP)
Schwab (Charles) Corp	FINANCIAL SERVICES	SEC BRKRG & SRVCS	Provided Information
Scientific Atlanta	TECHNOLOGY	COMMUNICATION TECH	No Response
Sealed Air Corp	MATERIALS & PROC	PAPER&PLASTIC PACK	Provided Information
Sears Holding Corp	CONSUMER DISCRET	RETAIL	Declined Participation
Sempra Energy	UTILITIES	UTIL-GAS DISTRBTR	Answered Questionnaire
Sherwin-Williams Co	MATERIALS & PROC	PAINTS & COATINGS	Answered Questionnaire
Siebel Systems	TECHNOLOGY	COMPUTER SERVICES, SOFTWARE, AND SYSTEMS	No Response
Sigma-Aldrich Corp	MATERIALS & PROC	CHEMICALS	Answered Questionnaire (NP)
SIMON PPTY GROUP INC N	FINANCIAL SERVICES	REITS	Answered Questionnaire (NP)
SLM Corp	FINANCIAL SERVICES	FINANCE-SMALL LOAN	Declined Participation
Snap-On Inc	CONSUMER DISCRET	CONSUMER PRODUCTS	No Response
Soletron Corp	TECHNOLOGY	ELECTRONICS TECH	No Response
Southern Company	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
Southwest Airlines Co	AUTO & TRANSPORT	AIR TRANSPORT	Provided Information
Sovereign Bancorp Inc	FINANCIAL SERVICES	SAVINGS & LOANS	Answered Questionnaire
Sprint Nextel Corp	UTILITIES	UTIL-TELECOMM	Provided Information
St Jude Medical Inc	HEALTH CARE	MED&DENT INST/SUPP	Declined Participation
St Paul Travelers Cos Inc/The	FINANCIAL SERVICES	INS-MULTI-LINE	Answered Questionnaire
Stanley Works	CONSUMER DISCRET	HOUSEHOLD EQ&PRODS	No Response
Staples Inc	CONSUMER DISCRET	RETAIL	Answered Questionnaire

Company Name	Russell Sector	Russell Industry	CDP4 Response
Starbucks Corp	CONSUMER DISCRET	RESTAURANTS	Answered Questionnaire
Starwood Hotels & Resorts Worldwide Inc	CONSUMER DISCRET	HOTEL/MOTEL	No Response
State Street Corp	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	Answered Questionnaire
Stryker Corp	HEALTH CARE	MED&DENT INST/SUPP	Answered Questionnaire
Sun Microsystems Inc	TECHNOLOGY	COMPUTER TECH	No Response
Sunoco Inc	OTHER ENERGY	ENERGY MISC	No Response
SunTrust Banks Inc	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	Provided Information
SuperValu Inc	CONSUMER STAPLES	DRUG & GRCRY STORE	No Response
Symantec Corp	TECHNOLOGY	COMP SVC SFTWR&SYS	No Response
Symbol Technologies Inc	TECHNOLOGY	COMMUNICATION TECH	No Response
Synovus Financial Corp	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	Answered Questionnaire
Sysco Corp	CONSUMER STAPLES	FOODS	Provided Information
T Rowe Price Group Inc	FINANCIAL SERVICES	INVSTMNT MGMT COS	Answered Questionnaire (NP)
Target Corp	CONSUMER DISCRET	RETAIL	Answered Questionnaire
Teco Energy Inc	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
Tektronix Inc	PRODUCER DURABLES	ELECTRONCS-INSTRUM	Answered Questionnaire (NP)
Tellabs Inc	TECHNOLOGY	COMMUNICATION TECH	No Response
Temple-Inland Inc	MATERIALS & PROC	PAPER&PLASTIC PACK	No Response
Tenet Healthcare Corp	HEALTH CARE	HC-FACILITIES	Provided Information
Teradyne Inc	PRODUCER DURABLES	PRODCNTN TECH EQPMT	No Response
Texas Instruments Inc	TECHNOLOGY	ELECTRONICS SEMI-C	Answered Questionnaire (NP)
Textron Inc	OTHER	MULTI-SECTOR COS	No Response
The Goldman Sachs Group, Inc	FINANCIAL SERVICES	DIVERSE FIN'L SVCS	Answered Questionnaire (NP)
Thermo Electron Corp	PRODUCER DURABLES	ELECTRONCS-INSTRUM	No Response
Tiffany and Company	CONSUMER DISCRET	JWLRY WATCHS GEMS	Answered Questionnaire
Time Warner	CONSUMER DISCRET	COMMUNICATN&MEDIA	Provided Information
TJX Companies Inc	CONSUMER DISCRET	RETAIL	No Response
Torchmark Corp	FINANCIAL SERVICES	INS-MULTI-LINE	No Response
Transocean Inc	OTHER ENERGY	OFFSHORE DRILLING	Answered Questionnaire (NP)
Tribune Co	CONSUMER DISCRET	PUBLISH-NEWSPAPERS	No Response
TXU Corp	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
Tyco International Ltd	PRODUCER DURABLES	TELECOMMUNICATIONS	Provided Information
Tyson Foods Inc	CONSUMER STAPLES	FOODS	Declined Participation
Union Pacific Corp	AUTO & TRANSPORT	RAILROADS	Provided Information
Unisys Corp	TECHNOLOGY	COMPUTER TECH	Answered Questionnaire
UNITED PARCEL SERVICE	AUTO & TRANSPORT	TRANSPORTATION MSC	Answered Questionnaire
United States Steel Corp	MATERIALS & PROC	STEEL	Answered Questionnaire
United Technologies Corp	PRODUCER DURABLES	AEROSPACE	Answered Questionnaire

Company Name	Russell Sector	Russell Industry	CDP4 Response
UnitedHealth Group Inc	HEALTH CARE	HC-MANAGEMENT SVCS	Answered Questionnaire (NP)
Univision Communications Inc	CONSUMER DISCRET	RADIO&TV BROADCAST	No Response
UnumProvident Corp	FINANCIAL SERVICES	INS-MULTI-LINE	Answered Questionnaire (NP)
US Bancorp	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	Answered Questionnaire
UST Inc	CONSUMER STAPLES	TOBACCO	No Response
Valero Energy Corp	OTHER ENERGY	ENERGY MISC	Answered Questionnaire (NP)
Verizon Communications	UTILITIES	UTIL-TELECOMM	Answered Questionnaire
VF Corporation	CONSUMER DISCRET	TEXTILE-APPRL MFRS	No Response
Viacom Inc – Class B	CONSUMER DISCRET	RADIO & TV BROADCAST	Answered Questionnaire (NP)
Visteon	AUTO & TRANSPORT	AUTO PARTS-ORIG EQUIP	Answered Questionnaire (NP)
Vornado Realty Trust	FINANCIAL SERVICES	REITS	No Response
Vulcan Materials Co	MATERIALS & PROC	BUILDING MATERIALS	No Response
Wachovia Corp	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	Answered Questionnaire
Walgreen Co	CONSUMER STAPLES	DRUG & GRCRY STORE	Provided Information
Wal-Mart Stores Inc	CONSUMER DISCRET	RETAIL	Answered Questionnaire
Washington Mutual Inc	FINANCIAL SERVICES	SAVINGS & LOANS	Answered Questionnaire
Waste Management Inc	CONSUMER DISCRET	SERVICE COMMERCIAL	Answered Questionnaire (NP)
Waters Corp	PRODUCER DURABLES	CNTRL&FILTR DEVICE	No Response
Watson Pharmaceuticals Inc	HEALTH CARE	DRUGS & PHARM	No Response
Weatherford International Inc	OTHER ENERGY	MACHINE OILWELL EQ	No Response
Wellpoint Inc	HEALTH CARE	HC-SERVICES	Declined Participation
Wells Fargo & Co	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	Answered Questionnaire (NP)
Wendy's International Inc	CONSUMER DISCRET	RESTAURANTS	No Response
Weyerhaeuser Co	MATERIALS & PROC	FOREST PRODUCTS	Answered Questionnaire
Whirlpool Corp	CONSUMER DISCRET	ELECTHSEHLD APPL	No Response
Williams Companies Inc	OTHER ENERGY	UTIL-GAS PIPELINES	Answered Questionnaire
Wrigley William Jr Co	CONSUMER STAPLES	FOODS	Answered Questionnaire
Wyeth	HEALTH CARE	DRUGS & PHARM	Answered Questionnaire
Xcel Energy Inc	UTILITIES	UTIL-ELECTRICAL	Answered Questionnaire
Xerox Corp	PRODUCER DURABLES	OFFICE FURN&BUS EQ	Answered Questionnaire
Xilinx Inc	TECHNOLOGY	ELECTRONICS SEMI-C	Answered Questionnaire (NP)
XL Capital Ltd	FINANCIAL SERVICES	INS-PROP&CASUALTY	No Response
XTO Energy Inc	OTHER ENERGY	OIL CRUDE PRODUCER	No Response
Yahoo! Inc	CONSUMER DISCRET	CONSUMER ELECTRNCS	No Response
Yum! Brands Inc	CONSUMER DISCRET	RESTAURANTS	No Response
Zimmer Holdings Inc	HEALTH CARE	MED&DENT INST/SUPP	Answered Questionnaire
Zions Bancorporation	FINANCIAL SERVICES	BANKS-OUTSIDE NYC	Answered Questionnaire

Appendix E: Examples Of 10-Q Reports of Line Item Write-offs for “Unexpected” Weather Events

2005 hurricanes had significant financial impacts on S&P 500 companies in many sectors. Sample quotes from 2005 10-Q reports illustrate these impacts:

- “Losses in the third quarter of 2005 include estimates of \$3.68 billion related to Hurricane Katrina and \$850 million, net of reinsurance recoverable of \$205 million, related to Hurricane Rita.” (*Allstate 10-Q, 11/1/2005*)
- “The Company’s pretax cost of catastrophes, net of reinsurance and including reinstatement premiums, totaled \$1.52 billion (\$1.01 billion after-tax) in the third quarter of 2005, all of which resulted from Hurricanes Katrina and Rita.” (*St. Paul Travelers, 11/3/2005*)
- “AIG currently estimates that its after-tax insurance related losses, net of reinsurance recoverables and including net reinstatement premium costs, from Hurricane Wilma will be approximately \$400 million.” (*AIG, 11/14/2005*)
- “On August 29, 2005, Hurricane Katrina made landfall in the states of Louisiana, Mississippi and Alabama causing catastrophic damage to these coastal regions. In the third quarter of 2005, the Company recognized total net losses related to the catastrophe of \$130 million, net of income taxes and reinsurance recoverables and including reinstatement premiums and other reinsurance related premium adjustments, which impacted, most substantially, the Auto & Home and Institutional segments.... MetLife’s gross losses from Katrina were approximately \$340 million, primarily arising from the Company’s homeowners business.” (*MetLife, 11/9/2005*)
- “Profits in the third quarter 2005 were adversely affected by hurricanes in the Gulf of Mexico, which required the company’s refinery in Pascagoula, Mississippi, to be shut down on two separate occasions for about 40 days during the quarter, and normal operations were not restored until mid-October. The storms also caused disruptions to the company’s marketing and pipeline operations in the area. ...Average margins for refined products improved from the year-ago period, but the effects were partially offset by increased refinery downtime and operating costs relating to hurricanes. Earnings for the first nine months of 2005 were \$595 million, compared with \$889 million in the corresponding 2004 period. Increased downtime for refinery maintenance and repairs was the primary factor in the earnings decline.” (*Chevron, 11/3/2005*)
- “During the third quarter of 2005, our operations were impacted by several hurricanes in the Gulf of Mexico. ESG lost approximately \$46 million in revenue and approximately \$28 million in operating income, primarily due to the temporary suspension of work related to damaged and lost customer rigs. We also estimate that the slow recovery in the Gulf of Mexico infrastructure and our customers’ ability to restore the operations of their rigs and platforms to pre-hurricane levels will negatively impact the fourth quarter of 2005 and the first six months of 2006.” (*Halliburton, 10/30/2005*)
- “In the third quarter of 2005, certain oil derivatives ceased to qualify for hedge accounting because the hedged production exceeded actual and projected production under these contracts. The lower than expected production was caused primarily by hurricanes that affected offshore oil production in the Gulf of Mexico. Because these contracts no longer qualify for hedge accounting, Devon recognized in the third quarter of 2005 a \$32 million loss for anticipated fourth quarter settlements and \$13 million of third quarter 2005 settlements under these oil derivatives as change in fair value of derivative financial instruments in the accompanying statement of operations.” (*Devon Energy, 11/3/2005*)

About the Authors

David Gardiner is Principal and President of David Gardiner & Associates (DGA). Mr. Gardiner has over twenty-five years of experience analyzing and shaping successful federal and international environmental and climate change policy in the public and private sector. **Miranda Anderson** is Vice President for Investor Analysis at DGA. She assists clients in building climate change programs, provides tactical guidance on shareholder climate change campaigns, and analyzes off-balance sheet risks and opportunities of climate change in specific sectors, including automobiles, electric power, oil & gas, and financial services. **Rebecca Schlesinger** is a research associate at DGA, and specializes in climate risk disclosure analysis and energy security issues. Ms. Schlesinger developed and directed the analytics of this project.

David Gardiner & Associates, LLC (DGA) provides innovative environmental and sustainability services to clients in the private- and public-sectors. The firm has core expertise in climate change, clean air, clean energy, corporate responsibility, investor services, business and non-profit management, and sustainable development. DGA focuses on key sectors where sustainability issues have a significant impact, including electricity, transportation, land use, and investor and financial markets.

Julie Fox Gorte is Vice President and Chief Social Investment Strategist for Calvert. Dr. Gorte works to build stronger links between social and financial analytics, and serves as a spokesperson for social investing. She has worked in government, nonprofit, and for-profit sectors on issues of sustainability and technology policy throughout her career. **Devin Zeller** is a Social Research Analyst at Calvert. Before completing an MBA, he worked in small-business development in Guatemala, Central America and has further experience in housing finance and portfolio management.

Calvert is one of the nation's largest socially responsible mutual fund firms with approximately \$14 billion in assets under management. Calvert offers forty funds that allow individual and institutional investors to pursue a broad range of investment objectives within a single fund family. Calvert launched the Calvert Social Index®, a benchmark for measuring the performance of large, U.S.-based socially responsible companies. In addition to its equity funds, Calvert has an extensive lineup of tax-free and taxable fixed income investments. For more information on Calvert, click on www.calvert.com.

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Ceres is a coalition of investment funds, environmental organizations, and public interest groups. Ceres' mission is to move businesses, capital, and markets to advance lasting prosperity by valuing the health of the planet and its people. Ceres represents more than \$400 billion in assets. Investor members include state and city pension funds, socially responsible investment firms, religious groups, labor unions, and foundations.

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