

# Reclaiming Transparency in a Changing Climate: Trends in Climate Risk Disclosure by the S&P 500 from 1995 to the Present

Kevin L. Doran, Elias L. Quinn and  
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## Foreword

The Center for Energy and Environmental Security and the Environmental Defense Fund have performed a valuable public service by co-sponsoring this important Report that assesses trends in disclosures to investors by publicly-traded companies about the potential effects of climate change and related public-policies on their businesses.

The role the Securities and Exchange Commission, and the federal securities laws it administers, should play in mandating disclosures about environmental matters has been controversial since the concept was first proposed a generation ago.<sup>1</sup> But, today an ever-increasing number of public companies recognize that efforts to combat climate change will affect their businesses in material ways. As recently observed, “Regulating the temperature of the planet by adjusting the mix of gases in our atmosphere is the most ambitious undertaking yet attempted by human beings.”<sup>2</sup> For many companies, the changes that will ensue in their businesses and operations will be profound. And yet, as the Report documents, some companies that loudly trumpet their commitment to protecting the environment and to clean energy in their institutional advertising and sustainability reports have nonetheless been slow to discuss the business implications for their investors.

Climate change creates opportunities as well as challenges for many businesses, and both the positive and the negative implications should be discussed when they can reasonably be expected to have a material effect on the company’s business and its prospects for the future.

One need not agree with each of the authors’ conclusions in order to recognize that this Report makes a highly valuable contribution to advancing an important public policy debate. Unlike prior assessments, this one drills beneath the surface. It does more than merely count the percentage of companies that mention climate change; it evaluates whether the discussions are substantial and nuanced. The authors also make numerous constructive suggestions for how companies can improve their discussion of climate change in the future.

We congratulate the authors and the sponsoring organizations, and we commend their work to those who are interested in protecting the environment, or improving SEC-disclosure obligations—but most especially to those, like us, who care about both.

**Harvey L. Pitt**

*Chief Executive Officer, Kalorama Partners, LLC  
Former Chairman, Securities and Exchange Commission*

**E. Donald Elliott**

*Partner, Willkie Farr & Gallagher LLP  
Former Assistant Administrator and General Counsel,  
Environmental Protection Agency*

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<sup>1</sup> Theodore Sonde & Harvey Pitt, *Utilizing Federal Securities Laws to Clear the Air! Clean the Sky! Wash the Wind!*, 16 How. L.J. 906 (1971).

<sup>2</sup> E. Donald Elliott, *Get on With It as Soon as Possible*, THE ENVIRONMENTAL FORUM (2009).

## Foreword

Our nation currently faces two major challenges: the dramatic turmoil in our financial markets, and the dangerous prospect of a changing climate.

These challenges may appear distinct, but in fact they are closely linked. Climate change will have a profound impact on corporate performance, with ill-prepared corporations missing new opportunities and suffering from shifting markets and new physical risks. Addressing these dual challenges will require America to come together to implement a range of solutions. In the near term, one immediate opportunity is to tackle the widespread inadequacy of climate risk disclosure.

A key origin of our current financial crisis has been inadequate and inconsistent regulation of financial markets, and particularly the insufficient availability of accurate information on risk exposure. As President Obama said in his inaugural address, “this crisis has reminded us that without a watchful eye, the market can spin out of control.” Lax oversight allowed corporations to take on excessive risks, and permitted poor disclosure practices that left investors in the dark regarding the dangers lurking in their portfolios.

In the current market crisis, investors have suffered from inadequate disclosures of unexpected risks from mortgage and credit markets. But investors are also at risk due to the poor and inconsistent information available on corporate risks from climate change. As this report highlights, corporations have not adequately disclosed material climate risks and opportunities despite the clear implications climate change has for corporate bottom lines.

Investors need accountable, consistent information regarding which companies are ready to seize new market opportunities spurred by climate policy, and which are falling behind. This report underscores the immediate need for the new SEC administration to restore transparency regarding corporate management of climate risks and opportunities by issuing guidance that clarifies appropriate climate disclosure practice.

**Robert Repetto**  
*Senior Fellow, United Nations Foundation*

## Executive Summary

The current global economic crisis has underscored the crucial importance of thoughtful, effective oversight of corporate risk management and disclosure by our nation's financial institutions. Mary Shapiro, the new Chair of the Securities and Exchange Commission (SEC), affirmed this mission upon her swearing in: "We will work to deepen the SEC's commitment to transparency, accountability, and disclosure while always keeping the needs and concerns of investors front and center."<sup>1</sup>

Despite the clear imperative for prudent oversight, the SEC has failed to protect investors from enduring inadequacies in corporate disclosure concerning the material risks and opportunities posed by climate change. This report—the most exhaustive empirical analysis of climate disclosure conducted to date—is based on a systematic analysis of nearly 6,400 10-K filings by S&P 500 companies spanning 1995 through the present,<sup>2</sup> finds that there is an alarming pattern of non-disclosure by corporations regarding climate risks.

International executives name climate change as the societal issue most likely to affect shareholder value in the next five years.<sup>3</sup> The recent Fourth Assessment Report of the Intergovernmental Panel on Climate Change,<sup>4</sup> the Supreme Court's affirmation of the Environmental Protection Agency's authority to regulate greenhouse gases in *Massachusetts v. EPA*,<sup>5</sup> and the emergence of numerous state, regional and federal greenhouse gas policies all underscore the growing certainty of significant physical impacts from and regulatory responses to climate change.<sup>6</sup>

Under existing SEC disclosure requirements, a public corporation is required to fully and fairly disclose facts about its operations that are "material" to a shareholder's investment decision. But despite the growing evidence of climate change's broad range of impacts, 76.3% of annual reports filed in 2008 by S&P 500 corporations failed to even mention climate change.<sup>7</sup> The true test of proper climate risk disclosure will be its quality, assessed using existing frameworks like the Global Framework for Climate Risk Disclosure.<sup>8</sup> Simply including a climate change keyword is not an adequate assessment of climate change risk. But the fact that the large majority of S&P 500 companies fail to even mention climate change demonstrates the fundamental failure to implement securities law and protect investors.

The stark discrepancy between corporate awareness of the risks presented by climate change and disclosures intended to inform investors about these risks is highly troubling. The observed pattern of non-disclosure uncovered in this study reaffirms the need for the SEC to provide accountable, standardized guidance on reporting requirements for climate risk disclosure.

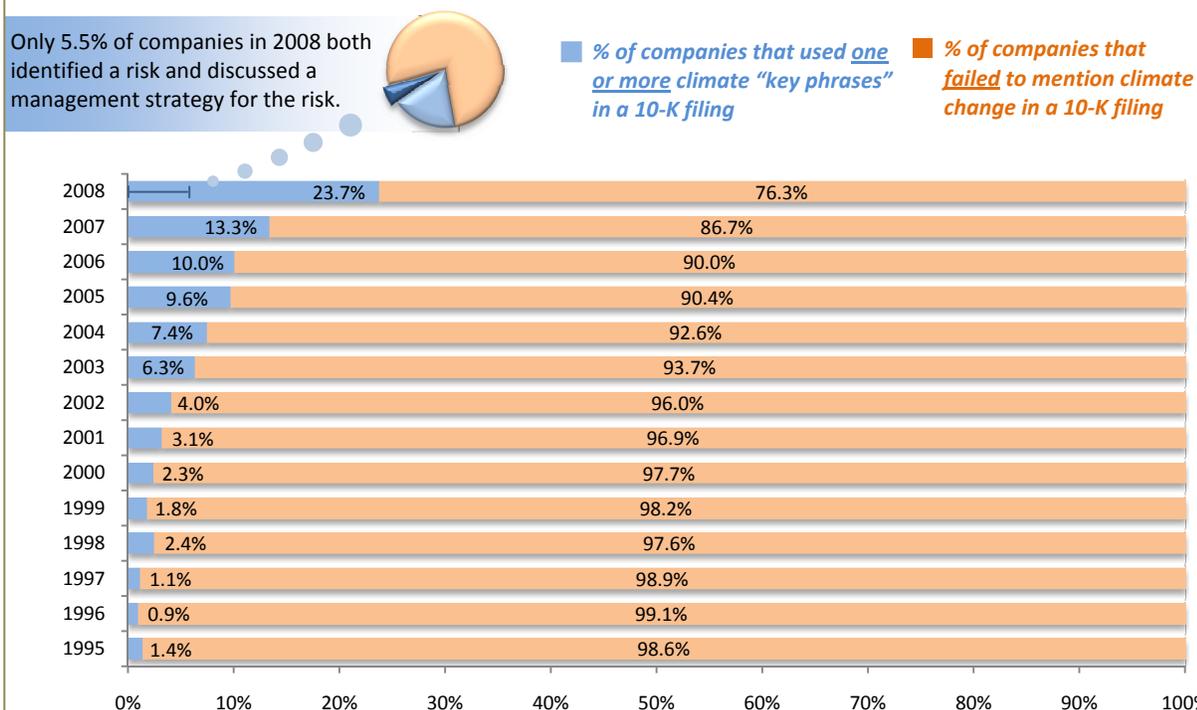
The following are among the key findings of the study:

- ▶ ***The vast majority of S&P 500 companies remain silent with respect to the risks and opportunities posed by climate change.*** 76.3% of annual reports filed by S&P 500 companies in 2008 failed to include any mention of climate change (see Chart 1).
- ▶ ***While there has been an increase in the quantity of 10-K filings that contain discussions of climate risks and opportunities, the quality of these discussions is low.*** Only 5.5% of annual reports filed by the S&P 500 in 2008 identified at least one risk posed by climate change and articulated a strategy for managing and mitigating that risk.<sup>9</sup>
- ▶ ***Less than 10% of S&P 500 companies in the financial sector discussed climate change in 10-K reports filed in 2008.*** This anemic reporting rate is particularly troubling given the enormous risks posed by climate change to the insurance industry, and the role of major banks in financing infrastructure projects. In 2008 the global advisory firm of Ernst & Young indicated that "climate change is the greatest strategic risk currently facing the property/casualty insurance industry."<sup>10</sup>

- **The utilities sector led all other S&P 500 sectors in discussing climate change in 10-K reports filed in 2008.** Only 3.2% of utilities sector companies failed to mention climate change in 10-K reports filed in 2008. Despite this low *failure-to-mention* rate, however, utilities sector disclosures still failed to provide high informational value to investors.

This study is part of a larger research project entitled ClimatePledges ([www.climatepledges.org](http://www.climatepledges.org)) run by the Center for Energy and Environmental Security. As part of this larger project, the dataset for this study has been placed online as a fully searchable database. The Coyote 10-K Database covers 750 companies that are current or former members of the S&P 500, 6,354 10-K filings, and 79,012 associated exhibits from 1995 to the second quarter of 2008. The resource is located at <http://coyote.climatepledges.org>.

**Chart 1.** Trends in Mentions of Climate Change in SEC 10-K Filings by S&P 500 companies, 1995 – Present\*



\* All 6,354 10-Ks were searched for the presence of one or more of the following climate key phrases: “climate change”; “global warming”; and “greenhouse gas.” The search was constructed to capture variations on each phrase.

**Table 1.** Mentions of Climate Change by S&P 500 Sector for 10-K filings in 2008

Economic Sector	% of Companies Failing to Mention Climate Change	% Identifying 1 Risk and an Associated Management Strategy
Utilities	3.2%	35.5%
Energy	37.1%	28.6%
Materials	44.0%	5.7%
Consumer Products	10.3%	2.1%
Industrials	85.0%	2.1%
Financials	90.6%	0.0%
Information Technology	93.5%	0.0%
Telecommunications	100.0%	0.0%
<b>All Sectors</b>	<b>23.7%</b>	<b>5.5%</b>

## Introduction

Current turmoil in financial markets has highlighted the shortcomings of corporate self-policing of risk assessment practices. The new Chair of the U.S. Security and Exchange Commission (SEC), Mary Shapiro, highlighted the need for the SEC to execute its oversight role and secure transparent and accountable disclosure during her swearing in ceremony.<sup>11</sup>

This analysis finds that a longstanding and ongoing pattern of inadequate disclosure of the material risks and opportunities from climate change has endured in the absence of clear guidance and accountability for climate disclosure practices. In this report, we review the results of a systematic study of climate disclosure in nearly 6,400 10-K filings made by S&P 500 companies between 1995 and the present. We also introduce the Coyote Database, a searchable database of 10-K reports that provided the basis for this analysis and is available for public use at <http://coyote.climatepledges.org>.

Despite compelling evidence of climate change's broad range of impacts, our analysis demonstrates that last year, 76.3% of S&P 500 corporations failed to even mention climate change in the required SEC filings relied upon by investors. Simply including a climate change keyword is not an adequate assessment of climate change risk. But the fact that the large majority of S&P 500 companies neglect to even mention climate risk demonstrates the fundamental failure to implement securities law and protect investors.

These findings underscore the imperative for SEC action to secure transparent and accountable climate risk disclosure practices to protect investors.

### **Existing securities law requires public corporations to disclose material information**

Under Securities and Exchange Commission disclosure requirements, a public corporation is required to fully and fairly disclose facts about its operations that are "material" to a shareholder's investment decision. A fact is defined as material if "there is a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the 'total mix' of information made available."<sup>12</sup> Under Regulation S-K and the Statement of Financial Accounting Standards No. 5 (FAS 5), corporations are responsible for narrative disclosures of material risks that cannot be quantified, and must disclose any reasonably estimable and material contingent liabilities on their balance sheets.<sup>13</sup>

Voluntary climate disclosure, through annual reports or institutions like the Carbon Disclosure Project, can provide additional information for the marketplace. But these forums are no substitute for the standardized, regulated disclosure mandated in SEC filings. As stated by Jeff Smith, a leading legal expert on securities disclosure, in testimony before the Senate Subcommittee on Securities, Insurance and Investment, "Because there is no agreed-upon format or objective for these [voluntary] reports . . . they do not create ready basis for comparison among and between themselves, or an accessible measurement against a recognized benchmark vetted through well-recognized channels under well-established principles."<sup>14</sup> Moreover, voluntary disclosures lack the accountability essential for investor certainty and protection.

### **Many corporations face material risks and opportunities from climate change**

Climate change presents a host of risks and opportunities for corporations. From electric utilities profiting from prudent investments in renewable energy generation to insurance companies coping with rising disaster risks in coastal communities, many major corporations in a variety of sectors are likely to incur significant impacts on their bottom line from current and future climate change. Current examples of climate risks and opportunities include:

- A recent report by the U.S. Environmental Protection Agency highlighted the host of threats to coastal infrastructure and private property from sea level rise.<sup>15</sup>

- A recent report highlighted the wide variety of new climate change product offerings by the insurance sector, including weather insurance for renewable energy producers and new insurance products for energy service providers.<sup>16</sup>
- 4,200 megawatts of wind power were added to the U.S. grid in the first nine months of 2008.<sup>17</sup>
- The Environmental Protection Agency is currently reconsidering California's waiver request for its Clean Cars program, and reevaluating whether new coal-fired power plants are subject to greenhouse gas emissions standards.<sup>18</sup>

### **Investors are calling for clarification of proper climate disclosure practices**

For many corporations, the risks and opportunities presented by a changing climate clearly fall under the definition of materiality. Nonetheless, repeated studies have found that climate risk disclosure practices are inadequate and inconsistent.<sup>19</sup> Investors have repeatedly asked the SEC to remedy this problem by clarifying how corporations should suitably and consistently disclose material climate risks:

**Investors petition the SEC for guidance.** On September 18th, 2007, a coalition of major institutional investors, large asset management firms, state officials and environmental organizations petitioned the SEC to clarify that publicly traded firms must disclose risks and opportunities related to climate change under existing law.<sup>20</sup> The petition signatories represented over \$1.5 trillion in assets under management.

**Senate committee of jurisdiction calls for action.** In a December 6, 2007 letter to former SEC Chairman Christopher Cox, Banking Committee Chairman Senator Christopher Dodd, and Securities, Insurance, and Investment Subcommittee Chairman Senator Jack Reed requested that the SEC issue an interpretive release to clarify publicly traded corporations' obligations to disclose material climate risks.<sup>21</sup> The letter stemmed in part from an October 31st hearing held by the Securities, Insurance, and Investment Subcommittee on "Climate Disclosure: Measuring Financial Risks and Opportunities."

**Insurance industry approves mandatory climate disclosure requirements.** In March, the National Association of Insurance Commissioners approved the nation's first mandatory climate disclosure requirements.<sup>22</sup> The disclosure requirements highlighted concerns about "the potential impact of climate change on insurer solvency and insurance availability and affordability across all major categories of insurance."<sup>23</sup>

### **This report demonstrates the continued need for SEC guidance to clarify proper climate disclosure practices**

This report analyzes the trends in climate risk disclosure practices in the 10-K filings of S&P 500 members since 1995. The analysis identified mentions of climate risk by searching for three climate change keywords: greenhouse gas, global warming, and climate change. For all 10-Ks in which a reference to climate change occurred, the study then proceeded to manually assess the informational value of the reference or references using the methodology described at Appendix A.

While some gains have been made, this analysis demonstrates that significant improvements in disclosure rates and disclosure quality are still urgently needed. The following pages detail findings for individual sectors of the economy: utilities; energy; materials; industrials; financial; consumer products; and information technology. The inadequate levels of disclosure found highlight the need for accountable, transparent disclosure practices that provide certainty for businesses and accountability for investors. It is vital that the SEC reassert its appropriate leadership role and clarify climate risk disclosure guidelines.

## Sectoral Analysis of S&P 500 10-K Filings: Utilities

**Sector Description:** This sector includes the following five industry groups: electric utilities; gas utilities; multi-utilities; water utilities; and independent power producers and energy traders.<sup>24</sup>

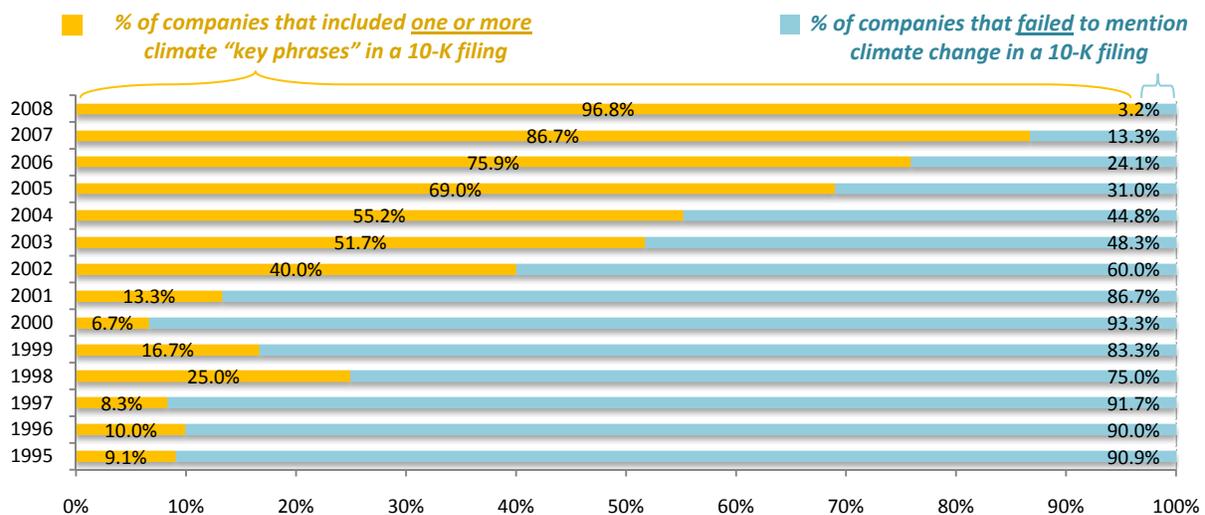
**Potential Climate Impacts:** Electric utilities are among the largest emitters of greenhouse gases. The potential regulatory and legal ramifications of limitations on greenhouse gases are therefore likely to have a particularly significant impact on electric utilities and energy producers. Utilities’ extensive physical plant investments are also vulnerable to the increasing frequency of extreme weather events.

**Climate Disclosure Examples in Sector 10-K’s:** Discussions included numeric goals and achievements in reducing greenhouse gas emissions, efforts to seek additional renewable power resources in order to comply with renewable portfolio standards and expected comprehensive climate policy, the need for regulatory certainty in order to appropriately plan and invest in energy efficiency and new resources, and participation in climate policy development efforts.

### Key Findings

- ▶ 35.5% of the sector met the standard of identifying at least one climate change risk and articulating a management or mitigation strategy for that risk in 10-K reports filed in 2008.
- ▶ 3.2% of S&P 500 energy companies failed to mention climate change in 10-K reports filed in 2008.

**Chart 2.** Trends in Utility Sector Mentions of Climate Change in SEC 10-K Filings, 1995 – Present



### Evaluating and Improving Utility Disclosure Quality

Utilities face a broad range of climate risks, necessitating thoughtful, detailed disclosure practices. Nonetheless, our analysis found that the majority of utilities in the S&P 500 failed to meet even basic indicators of disclosure quality. Only 35.5% of 10-Ks filed by utilities in 2008 identified one or more distinct climate risks and discussed the management of at least one risks.

Recent settlement agreements between the New York State Attorney General’s Office and two utilities, Xcel Energy and Dynegy, Inc., can provide guidance on appropriate climate risk disclosure practices for utilities. These agreements lay out components of comprehensive, consistent climate disclosure, requiring that Xcel and Dynegy disclose risks stemming from present and probable climate policies, climate change related litigation, and the physical impacts of climate change. In particular, the agreements require information on current and projected greenhouse gas emissions, and corporate strategy to mitigate emissions. More information on these agreements is available at <http://www.oag.state.ny.us/bureaus/environmental/feature.html>.

**Overall Quality of Disclosure: Low**

**35.5%**

% of S&P 500 utility sector companies meeting the standard of identifying at least one climate change risk and articulating a management or mitigation strategy for that risk in a 2008 10-K filing.

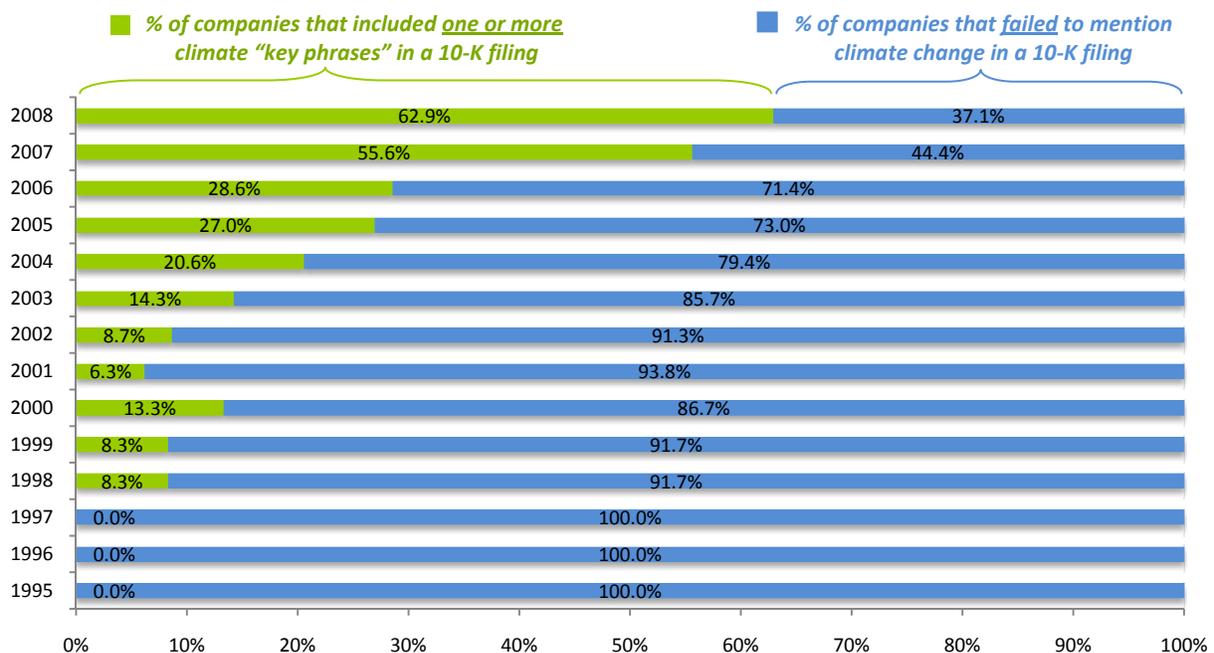
## Sectoral Analysis of S&P 500 10-K Filings: Energy

**Sector Description:** This sector includes the following industry groups: oil and gas drilling; oil and gas equipment and services; integrated oil and gas; oil and gas exploration and production; oil and gas refining and marketing; oil and gas storage and transportation; and coal and consumable fuels.<sup>25</sup>

**Potential Climate Impacts:** The energy sector is a major emitter of greenhouse gases and therefore particularly vulnerable to the legal and regulatory risks and opportunities posed by climate change. For example, carbon mitigation policies could spur rapid deployment of low-emitting clean energy resources. The sector is also vulnerable to the physical risks posed by climate change, including infrastructure damage and operational breakdown due to extreme weather events. Warming conditions could also have a major impact on natural gas demand for winter heating.

**Climate Disclosure Examples in Sector 10-K's:** Disclosures included review of the range of state, federal and international climate policies with which energy companies must comply, the potential for reduced demand for carbon-intensive energy products, and climate change related litigation.

**Chart 3. Trends in Energy Sector Mentions of Climate Change in SEC 10-K Filings, 1995 – Present**



### KEY FINDINGS

- ▶ 37.1% of S&P 500 energy companies failed to mention climate change in their 2008 10-K filing.
- ▶ References to climate change by energy sector companies first occurred in 1998 with 8.3% of the sector providing some treatment of the issue.

**Overall Quality of Disclosure: Very Low**

**5.7%**

% of S&P 500 energy sector companies meeting the standard of identifying at least one climate change risk and articulating a management or mitigation strategy for that risk in a 2008 10-K filing.

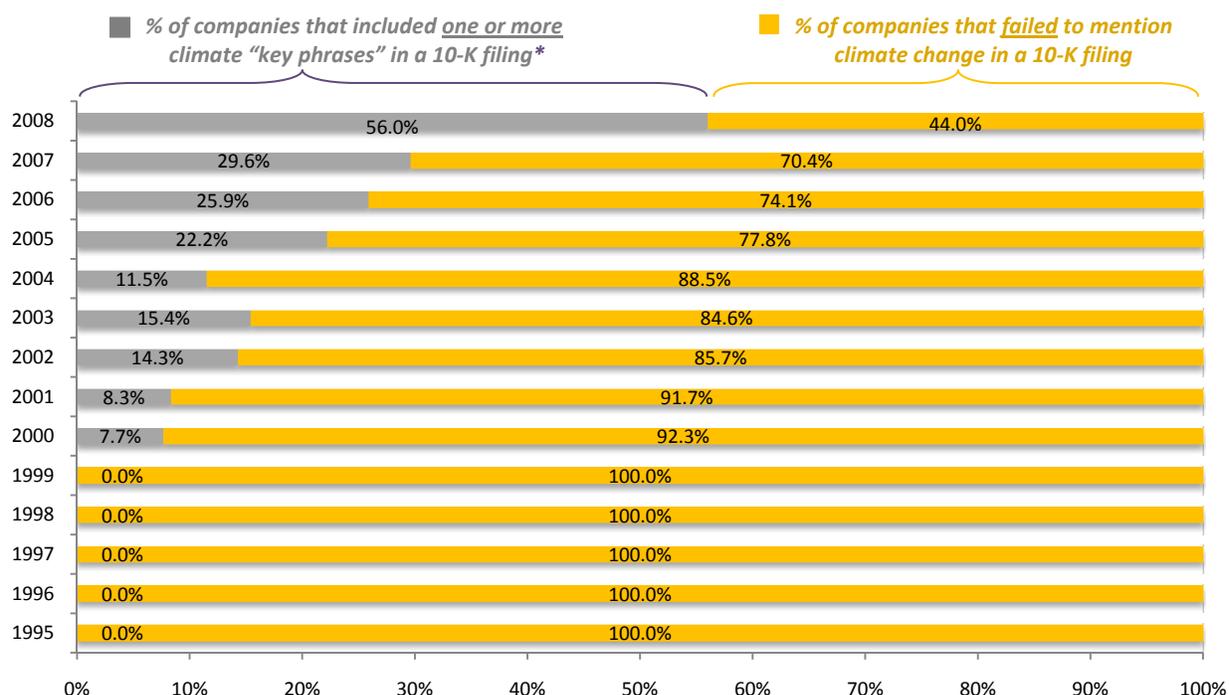
## Sectoral Analysis of S&P 500 10-K Filings: Materials

**Sector Description:** This sector covers companies engaged in a wide range of commodity-related manufacturing, including the following industries: chemicals; construction materials; containers and packaging; metals and mining; and paper and forest products.<sup>26</sup>

**Potential Climate Impacts:** Materials companies rely on a wide range of natural resources and use chemical processes that consume significant amounts of energy and release greenhouse gases. Cement companies alone account for 5% of global carbon dioxide emissions.<sup>27</sup> Potential climate impacts on the materials sector include reduced supply of natural resources impacted by changing climatic conditions and increased competitive advantage for firms with efficient manufacturing processes.

**Climate Disclosure Examples in Sector 10-K's:** Disclosures included information about quantitative goals and achievements in reducing greenhouse gas emissions, efforts to increase manufacturing efficiency and develop new products that help reduce greenhouse gas emissions, and discussions of risks associated with their business model and strategic investments.

**Chart 4.** Trends in Materials Sector Mentions of Climate Change in SEC 10-K Filings, 1995 – Present



### KEY FINDINGS

- ▶ 44% of materials companies failed to mention climate change in their 2008 10-K filing.
- ▶ References to climate change by materials sector companies first occurred in 2000 with 7.7% of the sector providing some treatment of the issue.
- ▶ Between 2007 and 2008 the percentage of companies mentioning climate change in 10-Ks grew from 29.6% to 56%.

**Overall Quality of Disclosure: Low**

**28.6%**

% of S&P 500 materials sector companies meeting the standard of identifying at least one climate change risk and articulating a management or mitigation strategy for that risk in a 2008 10-K filing.

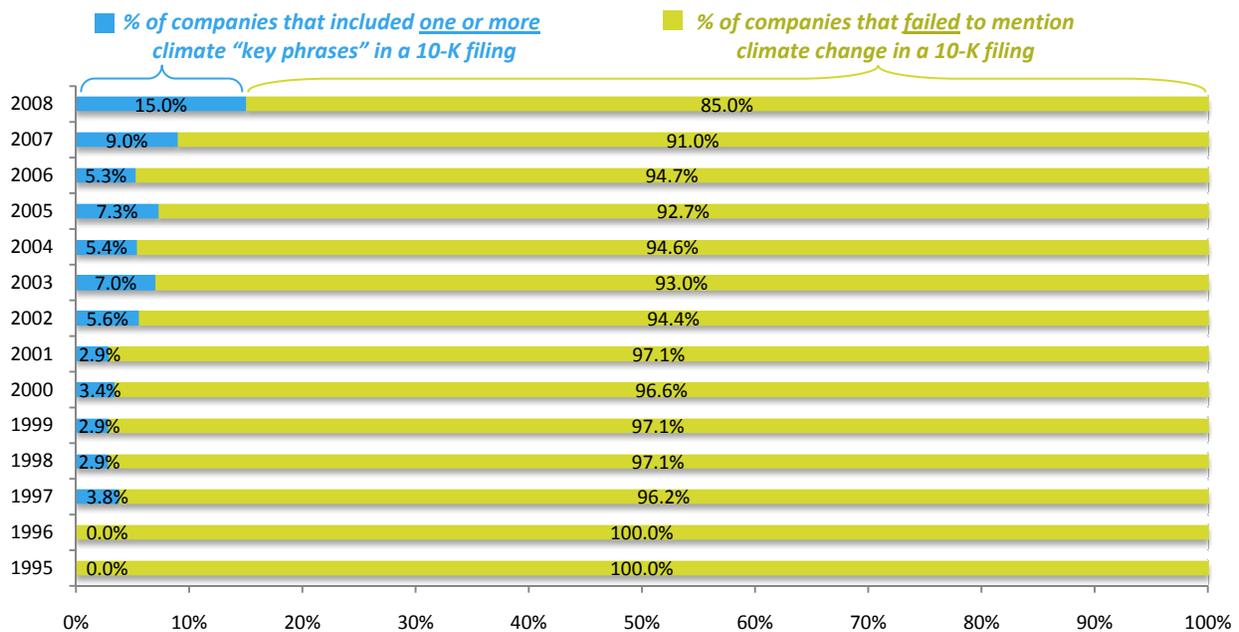
## Sectoral Analysis of S&P 500 10-K Filings: Industrial

**Sector Description:** This sector includes the following industries: airlines, aerospace and defense; building products; construction and engineering; electrical equipment; industrial conglomerates; machinery; trading companies and distributors; commercial services and supplies; professional services; air freight and logistics; marine; road and rail; and transportation infrastructure.<sup>28</sup>

**Potential Climate Impacts:** Most industrial corporations use significant amounts of fuel and electricity. Potential climate impacts on the industrial sector include increased demand for energy efficient products and services as well as impacts on physical plants and infrastructure investments from extreme weather events and sea level rise.

**Climate Disclosure Examples in Sector 10-K's:** Disclosures included the potential for changing consumer preferences for goods and services relating to renewable energy and energy efficiency, development of new products that address global warming, including energy efficiency and renewable energy products, and litigation risks stemming from climate change.

**Chart 5.** Trends in Industrial Sector Mentions of Climate Change in SEC 10-K Filings, 1995 – Present



### KEY FINDINGS

- ▶ 85% of S&P 500 industrial companies failed to mention climate change in their 2008 10-K filing.
- ▶ References to climate change by S&P 500 industrial sector companies first occurred in 1997 with 3.8% of the sector providing some treatment of the issue.
- ▶ Between 2007 and 2008 the percentage of companies mentioning climate change in 10-Ks grew from 9% to 15%.

**Overall Quality of Disclosure: Very Low**

**2.1%**

% of S&P 500 industrial sector companies meeting the standard of identifying at least one climate change risk and articulating a management or mitigation strategy for that risk in a 2008 10-K filing.

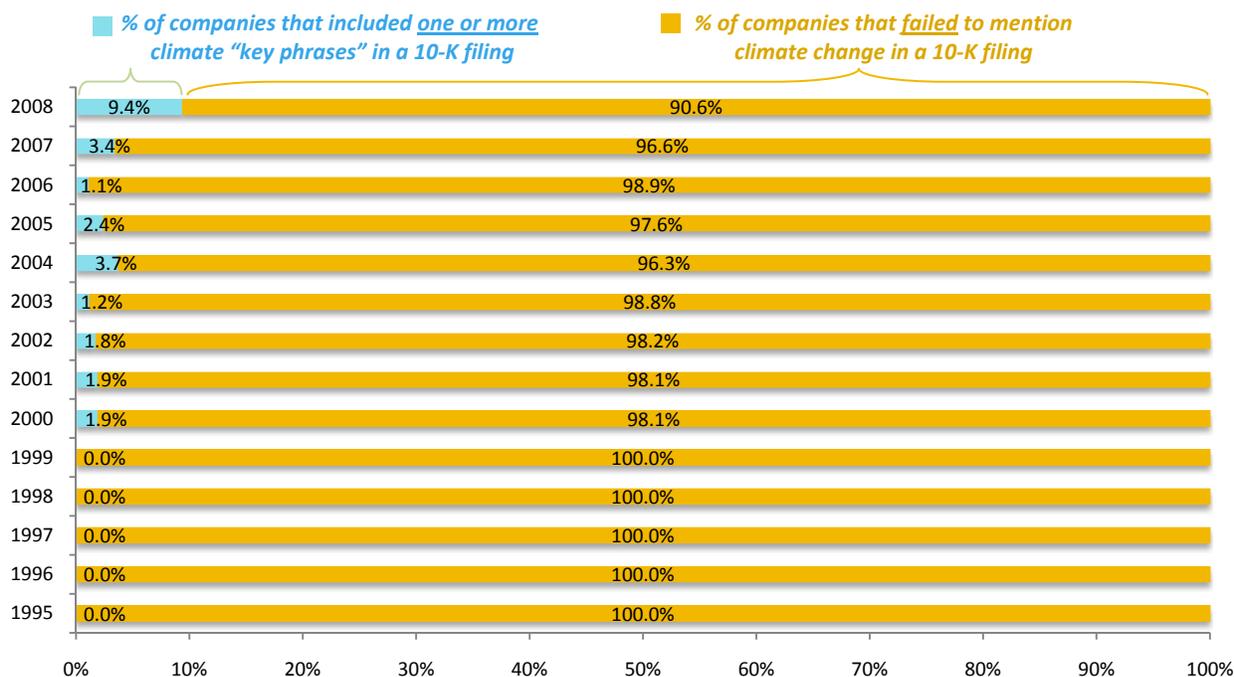
## Sectoral Analysis of S&P 500 10-K Filings: Financial

**Sector Description:** This sector includes the following industries: commercial banks; thrifts and mortgage finance; diversified financial services; consumer finance; capital markets; insurance; real estate; real estate investment trusts; and real estate management and development.<sup>29</sup>

**Potential Climate Impacts:** Insurance companies face serious risks to their financial stability from the increasing frequency of costly, extreme weather events. The banking industry also faces climate risks through investments in other sectors. For example, many major banks recently signed on to the Carbon Principles, a set of guidelines that aims to evaluate and mitigate the climate risks associated with investing in high-emitting energy generation.<sup>30</sup>

**Climate Disclosure Examples in Sector 10-K's:** Discussions included how climate change will increase the frequency of extreme weather events, making it more difficult to manage risk exposure in insurance policies, provide affordable insurance products, and adversely impacting the ability of borrowers to repay loans.

**Chart 6.** Trends in Financial Sector Mentions of Climate Change in SEC 10-K Filings, 1995 – Present



### KEY FINDINGS

- ▶ 90.6% of S&P 500 financial companies failed to mention climate change in their 2008 10-K filing.<sup>26</sup>
- ▶ References to climate change by S&P 500 financial sector companies first occurred in 2000 with 1.9% of the sector providing some treatment of the issue.
- ▶ Between 2007 and 2008 the percentage of companies mentioning climate change in 10-Ks grew from 3.4% to 9.4%.

**Overall Quality of Disclosure: Very Low**

**0.0%**

% of S&P 500 financial sector companies meeting the standard of identifying at least one climate change risk and articulating a management or mitigation strategy for that risk in a 2008 10-K filing.

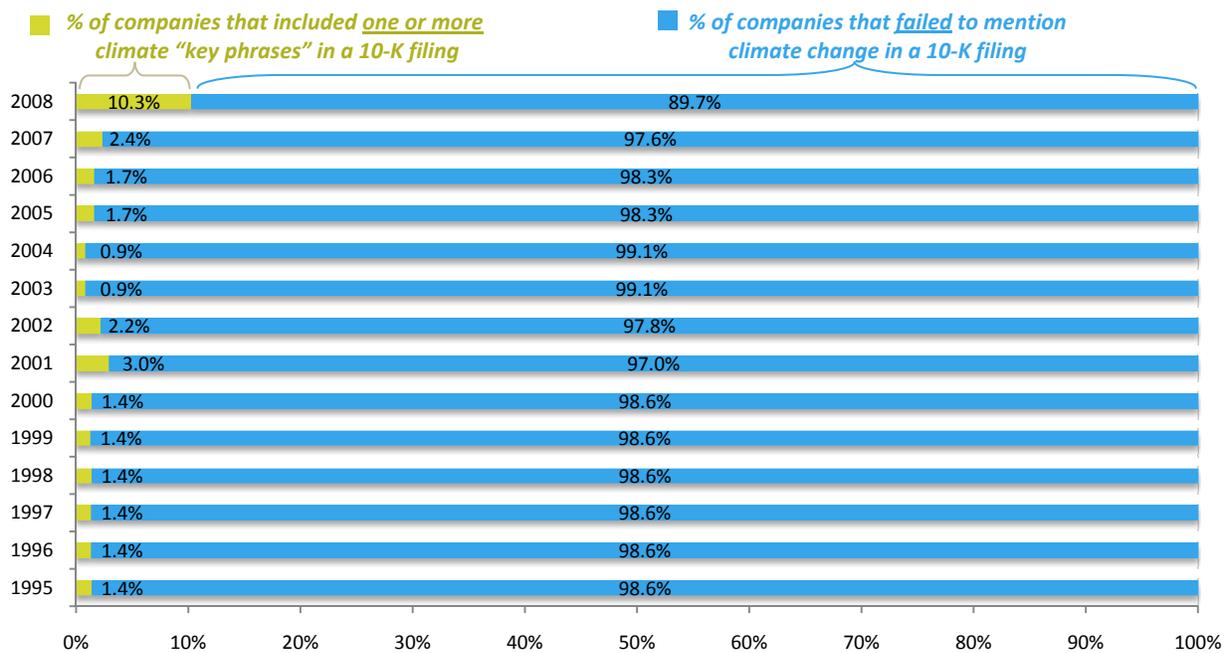
## Sectoral Analysis of S&P 500 10-K Filings: Consumer Products

**Sector Description:** This section contains the combined results for both the consumer staples and the consumer discretionary sectors, including industries such as automobiles, food and staples, retailing, and household products.<sup>32</sup>

**Potential Climate Impacts:** Consumer product companies rely on a wide range of natural resources and often depend on transportation systems and production processes that release substantial amounts of greenhouse gases. Potential climate risks for the consumer products sector include reduced supply of agricultural products and natural resources due to changing climatic conditions as well as increased competitive advantage for firms with efficient manufacturing, transportation and packaging practices.

**Climate Disclosure Examples in Sector 10-K's:** Disclosures included potential disruptions to supply chains and damages to property caused by adverse climate changes and extreme weather events, litigation seeking monetary damages from global warming induced by company products, and requirements to meet new climate policies.

**Chart 7.** Trends in Consumer Products Sector Mentions of Climate Change in SEC 10-K Filings, 1995 – Present



### KEY FINDINGS

- ▶ 89.7% of S&P 500 consumer products companies failed to mention climate change in their 2008 10-K filing.
- ▶ The only S&P 500 consumer products companies to even mention climate change in their 10-K filings prior to 2008 were the auto manufacturers Ford and General Motors.

**Overall Quality of Disclosure: Very Low**

**1.4%**

% of consumer products sector companies meeting the standard of identifying at least one climate change risk and articulating a management or mitigation strategy for that risk in a 2008 10-K filing.

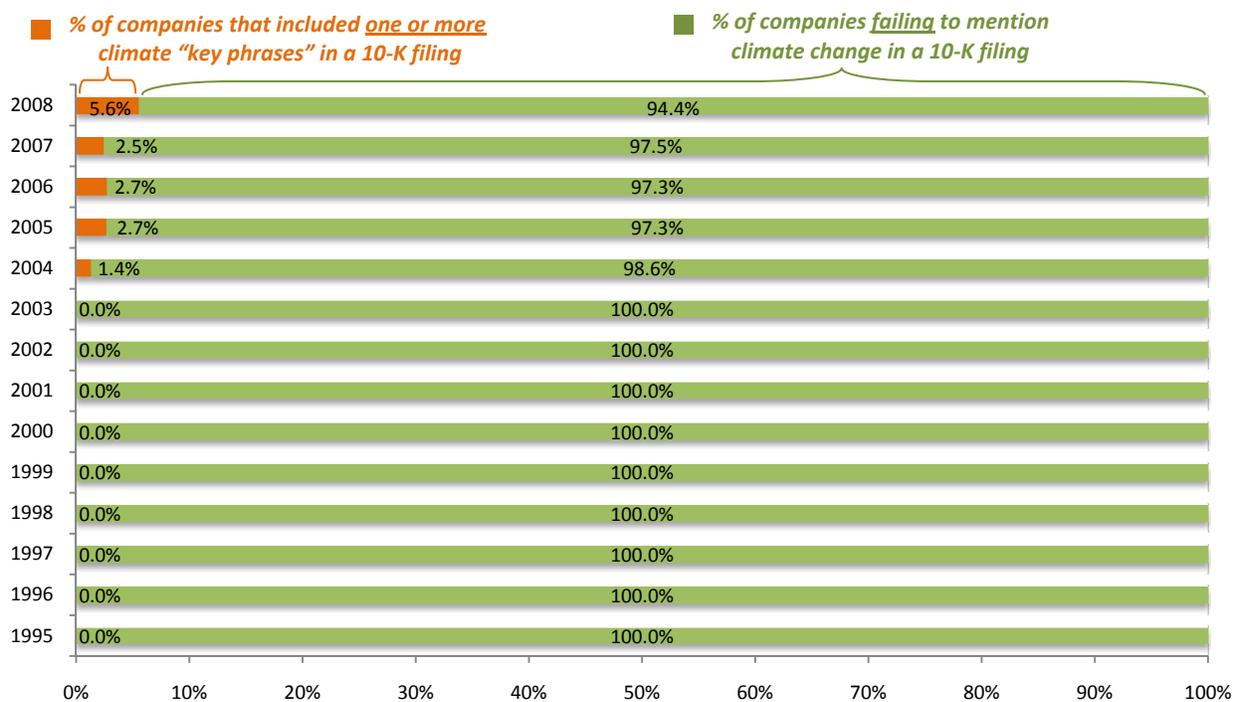
## Sectoral Analysis of S&P 500 10-K Filings: IT & Telecommunications

**Sector Description:** This section combines results from the information technology sector, which includes industries such as software, computers and peripherals, and internet services, with results from the telecommunications services sector.<sup>33</sup>

**Potential Climate Impacts:** Information technology and telecommunications firms use enormous amounts of power to maintain server farms and vast telecommunications networks.<sup>34</sup> Carbon policies will create a significant competitive advantage for companies able to increase the efficiency of the energy-intensive portions of their operations or to expand reliance on low-emitting energy resources.

**Climate Disclosure Examples in Sector 10-K's:** Discussions highlighted efforts to set and achieve greenhouse gas reductions goals, and initiatives to increase the energy efficiency of manufacturing, products, and services, particularly in relation to competitors' products.

**Chart 7.** Trends in Mentions of Climate Change in SEC 10-K Filings by the IT and Telecomm. Sectors, 1995 – Present



### KEY FINDINGS

- ▶ 86.9% of S&P 500 IT and telecommunications companies failed to mention climate change in their 2008 10-K filing.
- ▶ In 2008 only one sector—Telecommunication Services—had a zero percentage reporting rate for climate change in 10-K filings. Since 1995, no company in the Telecommunication Services sector has ever discussed climate change in a 10-K filing.

**Overall Quality of Disclosure: Very Low**

**2.1%**

% of S&P 500 IT and telecommunications sector companies meeting the standard of identifying at least one climate change risk and articulating a management or mitigation strategy for that risk in a 2008 10-K filing.

## Appendix A: Data Set and Methodology

This report describes the results of a comprehensive study of S&P 500 10-K annual reports filed with the SEC between 1995 and the second quarter of 2008. The 10-Ks included in this study provide information on the preceding fiscal year. However, because there is no uniform filing date for the covered 10-Ks, not all reports cover the same time period. For instance, Wal-Mart filed a 10-K with the SEC on March 31, 2008 that covers the fiscal year ending January 31, 2008. In contrast, H&R Block filed a 10-K with the SEC on June 30, 2008 that covers the fiscal year ending April 30, 2008.

The study analyzed 6,354 10-K filings and associated 10-K exhibits for references to climate change. For all 10-Ks filed in 2008 in which a reference to climate change occurred, the study then proceeded to assess the informational value of the reference or references.

[1] **Database Population:** The results reported here are based on an analysis of 10-K filings and their attached exhibits, collected into a CEES database that is available to the public at <http://coyote.climatepledges.org>. We focused on the Standard & Poor's 500, a cross-economy index of high market-cap companies, for our analysis. However, because the list of companies shifts, with new companies added and others dropped from the index over time, we expanded our review to all companies that were or had been listed in the S&P 500 any time from January 2000 to June 2008. The total number of companies whose filings were examined was 742. We then collected the 10-K annual reports for each of these companies, filed between 1995 and the second quarter of 2008, from the SEC's online database.<sup>35</sup>

[2] **Key Phrase Search:** A script was composed to search all 10-K filings in the database for certain "key phrases" that would indicate a discussion of climate change within the documents. The phrases used for this study were "climate change," "global warming," and "greenhouse gas." The script was constructed to capture variations on each phrase, such as "climate changes," or "greenhouse gases." However, the script would not detect mentions that included some grammatical error.

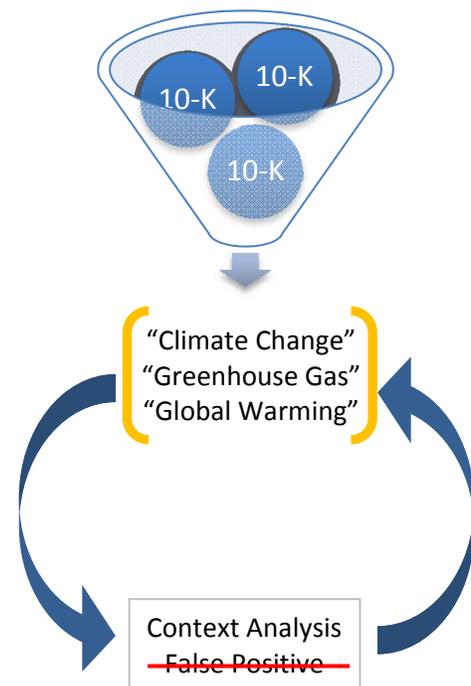
[3] **Iteration to Refine Phrase List:** The database was searched for several other key phrases before the list of three phrases used here was finalized. Phrases such as "carbon dioxide," "GHG," and "renewable energy" resulted in a large number of false positives, which raised concerns about data integrity. However, the legitimate results flagged by these search phrases were wholly duplicative of those revealed by the three listed above, so these additional search phrases were abandoned.

[4] **Context Analysis:** The results of the key phrase search were then reviewed to protect against false positives. For example, some early 10-Ks discussed things like the changing business climate, but did not discuss global climate change. Such results were expelled and then the remaining results were tabulated.

[5] **Analysis of 1 Risk, 1 Strategy metric:** For 10-K reports filed in 2008 that contained one or more climate key phrases, we evaluated the company's discussion of climate change using a metric of 1 risk, 1 strategy. This indicator assessed if the company (1) identified at least one climate risk to the company's performance, whether a physical, regulatory, business model, litigation, or other climate risk; and (2) articulated a management and mitigation strategy for at least one of the identified risks.

Further discussion of this study and its results can be found in Kevin Doran & Elias L. Quinn, *Climate Change Risk Disclosure: A Sector By Sector Analysis of SEC 10-K Filings from 1995–2008*, 34 N.C. J. INT'L L. & COM. REG. 101 (forthcoming).

Figure 1. Project Methodology



## Appendix B: Resources on Climate Disclosure

This analysis demonstrates how poor climate risk disclosure practices are today and how far we have to go to ensure investors have consistent and thoughtful information on corporate risks from climate change. We found that even bare mentions of climate change were infrequent, and our assessment of disclosure quality found that the large majority of companies fell short even by our limited measure of discussing one specific risk and one specific mitigation strategy. The true test of proper climate risk disclosure will be its quality, assessed using existing, widely respected frameworks.

SEC guidance is necessary to establish consistent, comprehensive guidelines for appropriate, accountable disclosure of climate risks. In the absence of such guidance, a range of materials are available to help investors evaluate climate disclosure performance, and to inform companies in providing appropriate disclosure of risks from climate change. This appendix highlights four key resources:

### **Coyote 10-K Database**

The database used for this study is available for public use at <http://coyote.climatepledges.org>. The Coyote 10-K Database includes 750 companies and 6,354 10-K filings, covering reports filed between the beginning of calendar year 1995 and the end of the second quarter of 2008. The database facilitates analysis of climate risk disclosure by public U.S. companies, though the tool is not restricted to climate or environmental risk analysis. Users can search the database for key phrases such as “global warming” or “climate change.” The database also allows the use of search operators. For instance, users can query the database for 10-Ks that contain [("climate change" OR "global warming") AND litigation]. Once a user has retrieved a 10-K filing or exhibit, the browser can then be used to generate pinpoint searches of specific terms.

### **The Global Framework on Climate Risk Disclosure**

The Global Framework was created by an international group of leading institutional investors as a statement on necessary and expected information companies should include in climate risk disclosures. The Framework outlines four elements of disclosure: historical, current, and projected greenhouse gas emissions; strategic analysis of climate risk and emissions management; assessment of physical risks of climate change; and analysis of risk related to the regulation of greenhouse gas emissions. Investors identified these elements as critical for analyzing a company’s business risks and opportunities resulting from climate change, as well as the company’s efforts to address those risks and opportunities. A full copy of the Global Framework is available here: <http://216.235.201.250//Document.Doc?id=73>.

### **Investor Petition to the SEC on Climate Risk Disclosure**

On September 18, 2007, investors representing over 1.5 trillion dollars in assets under management joined with state officials and non-profit organizations to request that the Securities and Exchange Commission issue guidance clarifying that corporations must disclose material climate risks under existing law. The Petition reviews relevant securities law, key developments in climate science and policy, the wide scope of investor efforts to acquire information on climate risks, and appropriate climate disclosure practices. A copy of the Petition is available here: <http://www.sec.gov/rules/petitions/2007/petn4-547.pdf>.

### **New York Attorney General’s agreements with Xcel Energy and with Dynegy, Inc.**

Recent agreements by the New York Attorney General’s Office with Xcel Energy and with Dynegy, Inc., negotiated in response to a subpoena duces tecum seeking information regarding disclosure practices, provide useful insights into comprehensive, consistent disclosure practices for electric utilities. The agreements require the companies to disclose information on regulatory, physical and litigation risks stemming from climate change, including: data on current and projected carbon emissions; company strategies for managing emissions and expected reductions from these actions; analyses of financial risks related to the present and probable climate policy; climate-change related litigation; physical impacts of climate change; and corporate governance actions related to climate change. Information on the agreements is available here: <http://www.oag.state.ny.us/bureaus/environmental/feature.html>.

## Endnotes

- <sup>1</sup> Securities and Exchange Commission, Press Release, *Mary Schapiro Sworn In as Chairman of SEC* (Jan. 27, 2009), available at <http://www.sec.gov/news/press/2009/2009-11.htm>.
- <sup>2</sup> This analysis examined all S&P 500 10-K annual reports filed with the SEC between 1995 and the second quarter of 2008. The 10-Ks included in this study provide information on the preceding fiscal year. However, because there is no uniform filing date for the covered 10-Ks, not all reports cover the same time period. For instance, Wal-Mart filed a 10-K with the SEC on March 31, 2008 that covers the fiscal year ending January 31, 2008. In contrast, H&R Block's filed a 10-K with the SEC on June 30, 2008 that covers the fiscal year ending April 30, 2008.
- <sup>3</sup> See The McKinsey Quarterly, *From Risk to Opportunity: How Global Executives View Sociopolitical issues* (Sept. 2008).
- <sup>4</sup> Intergovernmental Panel on Climate Change, *Climate Change 2007: Synthesis Report – Contribution of Working Groups I, II, and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (2007), available at [http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4\\_syr\\_frontmatter.pdf](http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_frontmatter.pdf).
- <sup>5</sup> *Massachusetts v. EPA*, 549 U.S. 497 (2007).
- <sup>6</sup> See SEC Petition Supplement, available at <http://www.ceres.org/NETCOMMUNITY/Document.Doc?id=358>.
- <sup>7</sup> All reported values for filings in year 2008 are based on filings in the first two quarters of the year. However, analysis performed on the first two quarters of filings provides far more than half a year's available data; 421 of the S&P 500 companies (84.2%) filed their 10-Ks with the SEC in quarters Q1 and Q2 of 2008. "Mention" of climate change, here and throughout the paper, is defined as using one of the three phrases—"climate change," "global warming," and "greenhouse gas"—at least once in the company's 10-K filing or connected exhibit documents.
- <sup>8</sup> See Ceres, *The Global Framework for Climate Risk Disclosure* (2006), available at <http://216.235.201.250//Document.Doc?id=73>.
- <sup>9</sup> This number was arrived at by examining 2008 10-Ks filed through Q2 according to the methodology described in Appendix A.
- <sup>10</sup> Ernst & Young, *Strategic Business Risk 2008: Insurance* (2008).
- <sup>11</sup> Securities and Exchange Commission, Press Release, *Mary Schapiro Sworn In as Chairman of SEC* (Jan. 27, 2009), available at <http://www.sec.gov/news/press/2009/2009-11.htm>.
- <sup>12</sup> SEC Staff Accounting Bulletin No. 99, 64 Fed. Reg. 45,150 (Aug. 12, 1999) (quoting *TSC Industries v. Northway, Inc.*, 426 U.S. 438, 449 (1976)).
- <sup>13</sup> The SEC has proposed changes to FAS 5 that could require increased detail and background in disclosures and accounting for loss contingencies. The currently proposed changes would require disclosure of all applicable loss contingencies except those where "the likelihood of loss is remote." Financial Accounting Standards Board, *Exposure Draft of a Proposed Statement of Financial Accounting Standards: Disclosure of Certain Loss Contingencies, An Amendment of FASB Statements No. 5 and 141(R)*, No. 1600-100, 2-3, (June 5, 2008).
- <sup>14</sup> Jeffrey A. Smith, *Testimony of Jeffrey A. Smith Before the Subcommittee on Securities, Insurance and Investment of the Committee on Banking, Housing and Urban Affairs, U.S. Senate, Regarding Climate Disclosure: Measuring Financial Risks and Opportunities* (Oct. 31, 2007).
- <sup>15</sup> U.S. Climate Science Program, *Synthesis and Assessment Product 4.1: Coastal Sensitivity to Sea Level Rise: A Focus on the Mid Atlantic Region*, U.S. Environmental Protection Agency, available at <http://www.epa.gov/climatechange/effects/coastal/SAP%204.1%20Final%20Report%2001.15.09.pdf>.
- <sup>16</sup> Evan Mills, *From Risk to Opportunity: 2007: Insurer Responses to Climate Change*, Ceres (Nov. 2007), available at <http://www.ceres.org//Document.Doc?id=225>.
- <sup>17</sup> American Wind Energy Assn. 3rd Quarter 2008 Market Report, available at [www.awea.org/publications/reports/3Q08.pdf](http://www.awea.org/publications/reports/3Q08.pdf).
- <sup>18</sup> U.S. Environmental Protection Agency, *California State Motor Vehicle Pollution Control Standards; Greenhouse Gas Regulations; Reconsideration of Previous Denial of a Waiver of Preemption*, 74 Fed. Reg. 7040 (Feb. 12, 2009). Letter from Lisa P. Jackson, Administrator, U.S. Environmental Protection Agency, to

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David Bookbinder, Chief Climate Counsel, Sierra Club (Feb. 17, 2009), available at <http://www.epa.gov/air/nsr/documents/20090217LPJlettertosierraclub.pdf>.

19 See Michelle Chan-Fishel, *Fourth Survey of Climate Change Disclosure in SEC Filings of Automobile, Insurance, Oil & Gas, Petrochemical, and Utilities Companies*, Friends of the Earth Report (Sept. 2005).

20 See Petition for Interpretive Guidance on Climate Risk Disclosure (United States Securities and Exchange Commission, Sept. 18, 2007), available at <http://www.incr.com/NETCOMMUNITY/Document.Doc?id=187>.

21 Letter from Christopher J. Dodd, Chairman, U.S. Senate Committee on Banking, Housing, and Urban Affairs, and Jack Reed, Chairman, U.S. Senate Subcommittee on Securities, Insurance and Investment, to Christopher Cox, Chairman, United States Securities and Exchange Commission (Dec. 6, 2007), available at [http://dodd.senate.gov/multimedia/2007/120607\\_CoxLetter.pdf](http://dodd.senate.gov/multimedia/2007/120607_CoxLetter.pdf).

22 See the National Association of Insurance Commissioners, Climate Change and Global Warming Task Force, available at [http://www.naic.org/committees\\_ex\\_climate.htm](http://www.naic.org/committees_ex_climate.htm).

23 National Association of Insurance Commissioners, Draft 12/12/08: Insurer Climate Risk Disclosure Survey (2008).

24 See S&P file at [http://www2.standardandpoors.com/spf/xls/index/GICS\\_English\\_083108.xls](http://www2.standardandpoors.com/spf/xls/index/GICS_English_083108.xls) (hereinafter S&P File).

25 *Id.*

26 *Id.*

27 See Energy Information Administration, *Emissions of Greenhouse Gases Report* (Dec. 3, 2008), available at <http://www.eia.doe.gov/oiaf/1605/ggrpt/carbon.html>.

28 See S&P File, *supra* note 24.

29 *Id.*

30 For more information, see the Carbon Principles homepage at <http://carbonprinciples.org/>.

31 For an in-depth discussion of insurance companies and their management of climate change related risks, see Christina Ross, Evan Mills, & Sean B. Hecht, *Limiting Liability in the Greenhouse: Insurance Risk-Management Strategies in the Context of Global Climate Change*, 43A STAN. J. INT'L L. 251 (2007) and Sean B. Hecht, *Climate Change and the Transformation of Risk: Insurance Matters*, 55 UCLA L. REV. 1559 (2008).

32 The complete list of industries in these two sectors is as follows: auto components; automobiles; household durables; leisure equipment and products; textiles, apparel and luxury goods; hotels, restaurants and leisure; diversified consumer services; media; distributors; internet and catalog retail; multiline retail; specialty retail; food and staples retailing; beverages; food products; tobacco; household products; and personal products. S&P File, *supra* note 24.

33 The information technologies sector includes the following industries: internet software and services; IT services; software; communications equipment; computers and peripherals; electronic equipment, instruments and components; office electronics; and semiconductors and semiconductor equipment. The telecommunications services sector includes the following industries: diversified telecommunication services; wireless telecommunication services; and other related industries. See S&P File, *supra* note 24.

34 In 2003, the telecommunications network in the United States was estimated to draw between 29 and 34 TWh/yr, or roughly a full 1% of the nation's electricity consumption. H. S. Matthews, *Electricity Use Of Wired and Wireless Telecommunications Networks in the United States*, ISEE Proceedings of the Electronics and the Environment, 2003. on IEEE International Symposium, Pages 131-136 (2003). One commentator estimates that in 2005 total electricity usage by information technology equipment in data centers, including electricity for cooling and power distribution, was 1% of world's total electricity consumption. Jonathan Koomey, *Worldwide Electricity Used In Data Centers*, ENVIRONMENTAL RESEARCH LETTERS, Vol. 3 (2008), available at <http://iopscience.iop.org/1748-9326/3/3/034008/?ejredirect=.iopscience>. In 2005 global data center power demand was "equivalent (in capacity terms) to about seventeen 1000 MW power plants." *Id.*

35 As some of the companies included within the CEES database have since merged with other companies or gone out of business, a 10-K filing is not available for every company for every year of the survey. The total number of 10-Ks analyzed for each year fluctuates from between roughly 375 and 620.