RECENT DEVELOPMENT

AN INCONVENIENT RISK: CLIMATE CHANGE DISCLOSURE AND THE BURDEN ON CORPORATIONS

CAMDEN D. BURTON*

"What gets us into trouble is not what we don't know. It's what we know for sure that just ain't so."[1]

TABLE OF CONTENTS

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* J.D. Candidate, 2011, American University Washington College of Law; B.A., 2006, Geography & History, Middlebury College. Many thanks to Professor Walter Effross for the initial inspiration, to Lindsay Coleman for her invaluable assistance and encouragement, to my parents for their support, and to Rob for coexisting with the writing process.

1. Attributed to Mark Twain, *in* AN INCONVENIENT TRUTH (Paramount Classics 2006).

INTRODUCTION

Climate change and *corporate disclosure*—each term recalls the deluge of graphic images and the rash of fiery rhetoric that have dominated news cycles, advocacy campaigns, and congressional hearings. The debate on both topics has only increased in recent years. Environmental public interest groups have campaigned for increased action to combat climate change using graphic representations of global changes,[2] large mammals dependent on fragile ecosystems,[3] and other equally compelling figureheads. All insist the time has come to stop talking and begin taking action.[4]

A variation on the theme is seen in accusations against, petitions to, and investigations into the actions of large corporations. Increasingly, corporations have been pressured—and in some cases required—to disclose information about their financial health, operations, and any other information deemed relevant to shareholders' interests.[5] Whenever investors desire social responsibility from corporations, a cry goes up for information at a more relevant point in the corporate–investor relationship: when investors can still react.[6]

The intersection of climate change and corporate disclosure has created

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2. *See, e.g.*, *350 Science*, 350.ORG, http://www.350.org/about/science (last visited Nov. 2, 2010) (contrasting the polar ice cap in 1979 and in 2007 using NASA images).

3. *See, e.g.*, DEFENDERS OF WILDLIFE, NAVIGATING THE ARCTIC MELTDOWN: POLAR BEARS (2007), *available at* http://www.defenders.org/resources/publications/programs_and_policy/science_and_economics/global_warming/navigating_the_arctic_meltdown_polar_bear.pdf (describing the impacts of global warming on the polar bear habitat).

4. *See, e.g.*, JOEL B. SMITH ET AL., PEW CTR. ON GLOBAL CLIMATE CHANGE, ADAPTING TO CLIMATE CHANGE: A CALL FOR FEDERAL LEADERSHIP 1 (2010), *available at* http://www.pewclimate.org/docUploads/adaptation-federal-leadership.pdf ("Even ambitious greenhouse gas reduction programs will not prevent additional adverse impacts of climate change . . . . [S]ociety will have to adapt . . . ."); SIERRA CLUB, GLOBAL WARMING: A TIME FOR ACTION 1, *available at* http://www.sierraclub.org/energy/downloads/timetoact.pdf ("We know that global warming is occurring, and is a very serious threat. . . . The time for talk is past. It is time for action!").

5. *See* S. REP. NO. 107-205, at 2 (2002) (discussing the remedial purpose of the Sarbanes–Oxley Act of 2002, Pub. L. No. 107-204, 116 Stat. 745 (codified as amended in scattered sections of 15 U.S.C.), with respect to the "systemic and structural weaknesses affecting [the] capital markets . . . revealed by repeated failures . . . in recent months and years"); *see also* Thomas Joo, *Global Warming and the Management-Centered Corporation*, 44 WAKE FOREST L. REV. 671, 672 (2009) ("[T]he flurry of post-Enron corporate-governance reform proposals included many efforts to increase the power of shareholders in corporate governance.").

6. *See* WALTER A. EFFROSS, CORPORATE GOVERNANCE: PRINCIPLES AND PRACTICES 431–32 (2010) (citing Paula Tkac, *One Proxy at a Time: Pursuing Social Change Through Shareholder Proposals*, ECON. REV. FED. RES. BANK ATLANTA, no. 3, 2006, at 1, 11–12, 19).

its own controversy. Advocates for increased disclosure claim that climate change "presents bottom-line risks that must be disclosed to ensure a fair and transparent marketplace."[7] As science has progressed, the existence and potential impacts of climate change have become more clearly defined.[8] Investors' rights groups contend climate risk is material to investors' decisions and support the interpretation of existing disclosure regulations to include the material impacts of climate change.[9] Others believe the existing regulations are sufficient considering how difficult possible climate change effects may be to quantify.[10] Early in 2010, the Securities and Exchange Commission (SEC) effectively shifted the focus of the debate from *whether* climate change risks should be disclosed in securities regulations disclosures at all to *what* risks should be included and *how* companies will adapt. On January 27, 2010, the SEC voted to require companies to disclose potential impacts of matters related to climate change. Both enthusiastic support and pointed criticism followed the 3–2 party-line vote, with Mary Schapiro, the Democratic SEC Chairman, claiming the decision would "help to ensure that [SEC] disclosure rules are consistently applied, regardless of the political sensitivity of the issue at

7. BETH YOUNG ET AL., THE CORP. LIBRARY, CLIMATE RISK DISCLOSURE IN SEC FILINGS: AN ANALYSIS OF 10-K REPORTING BY OIL AND GAS, INSURANCE, COAL, TRANSPORTATION AND ELECTRIC POWER COMPANIES iii (2009), *available at* http://www.ceres.org/Document.Doc?id=473 [hereinafter THE CORPORATE LIBRARY REPORT] (emphasizing not only moral arguments for disclosure but economic factors as well). This report surveyed 10-K filings made by over 100 companies in five industries and found inadequate disclosure by nearly every company surveyed. *Id.* at 34.

8. UNITED NATIONS ENV'T PROGRAMME, UNEP YEARBOOK: NEW SCIENCE AND DEVELOPMENTS IN OUR CHANGING ENVIRONMENT 2009, at 21 (Catherine McMullen & Thomas Hayden eds., 2009) ("Climate change has long since ceased to be a scientific curiosity . . . ."). *But see* Joo, *supra* note 5, at 688–89 (contending that while companies' greenhouse gas emissions will certainly affect the environment generally, the evidence that emissions will harm the company itself is insufficiently concrete to require SEC disclosure).

9. *See, e.g.*, CAL. PUB. EMPS. RET. SYS. ET AL., SEC PETITION NO. 4-547, PETITION FOR INTERPRETIVE GUIDANCE ON CLIMATE RISK DISCLOSURE 13, 29 (2007), [hereinafter CLIMATE RISK DISCLOSURE PETITION], *available at* http://www.sec.gov/rules/petitions/2007/petn4-547.pdf (noting that "the risks and opportunities associated with climate change have often been viewed as potentially significant at some indefinite point in the future," but that recently there has been a greater degree of certainty that the government will act and therefore investors have a greater interest in what corporations are doing to prepare).

10. *See* U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-04-808, ENVIRONMENTAL DISCLOSURE: SEC SHOULD EXPLORE WAYS TO IMPROVE TRACKING AND TRANSPARENCY OF INFORMATION 3, 14 (2004), *available at* http://www.gao.gov/new.items/d04808.pdf [hereinafter GAO 2004 REPORT] (reporting beliefs that the current flexibility is necessary to accommodate circumstantial variability).

hand, so that investors get reliable information,"[11] and Republican Commissioner Kathleen Casey concluding the release's purpose was "to place the imprimatur of the commission on the agenda of the social- and environmental-policy lobby, an agenda that falls outside of [SEC's] expertise."[12] While the motivation for the guidance may be somewhere in between, the Commissioners' dissention reflects the complexity of disclosing impacts that can be diverse, far-reaching, potentially permanent, and above all, hard to quantify. Corporations' definition and measurement of risks in accordance with their obligations under the SEC's guidance (SEC Climate Change Guidance or Guidance)[13] will require additional and strenuous effort to consider the wide-ranging risks in the required situation-based, fact-driven analysis.

This Recent Development explores the task that lies ahead for companies when filing reports with the SEC. First, it discusses the relationship between climate change and corporations and lays out the recent SEC Climate Change Guidance. Second, it discusses how, in light of the limited information about climate change risks previously contained in companies' 10-K filings and even in the various voluntary disclosure mechanisms, the SEC Climate Change Guidance requires more from companies to provide investors with all relevant information. Third, it raises concerns about the additional burden placed on corporations by the SEC Climate Change Guidance to identify and measure risks, arguing the nature of climate change makes the materiality determination more difficult than other recently identified disclosure requirements. Finally, this Recent Development evaluates the potential cost to companies of disclosing in light of the potential maximum liability for risks related to climate change and concludes the additional cost of thorough evaluation risks is entirely justified.

I. SEC DISCLOSURE REQUIREMENTS, CLIMATE CHANGE, AND NEW GUIDANCE

Climate change has been defined as "a change of climate . . . attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability

11. Mary Schapiro, Chairman, Sec. & Exch. Comm'n, Statement Before the Open Commission Meeting on Disclosure Related to the Business or Legislative Events on the Issue of Climate Change (Jan. 27, 2010), http://www.sec.gov/news/speech/2010/spch012710mls-climate.htm.

12. Kara Scannell & Siobhan Hughes, *Divided SEC Makes Climate Another 'Risk'*, WALL ST. J., Jan. 28, 2010, at C1.

13. Commission Guidance Regarding Disclosure Related to Climate Change, 75 Fed. Reg. 6290 (Feb. 8, 2010) (to be codified at 17 C.F.R. pts. 211, 231, 241).

observed over comparable time periods."[14] The issue of climate change has spurred United States sub-federal governmental units, many states, and the vast majority of countries worldwide to action.[15] Even the United States Supreme Court has said, "The harms associated with climate change are serious and well recognized."[16] The evidence of climate change has been determined to be "unequivocal," with several long-term changes in climate observed by the Intergovernmental Panel on Climate Change and other scientific bodies.[17]

Public corporations are at risk for a wide variety of impacts from climate change. The rapidly changing regulatory environment could create uncertainty for the corporation's market or could substantially impact the company while it tries to come into compliance. The direct physical effects of climate change, including the major shifts but also more subtle changes to, for example, levels and timing of precipitation and snowmelt,[18] are the most obvious of potential risks. Increased violence and frequency of major storms could devastate a company with interests in coastal property;[19] but

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14. United Nations Framework Convention on Climate Change, art. 1, *concluded* May 9, 1992, 1771 U.N.T.S. 165. The Intergovernmental Panel on Climate Change, in its Fourth Assessment Report, varies slightly, defining climate change as "a change in the state of the climate that can be identified . . . by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer." INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: SYNTHESIS REPORT 30 (Core Writing Team et al., eds., 2008).

15. State and local United States governmental units have been addressing the risks and issues of climate change, from filing or joining lawsuits to kickstart the federal government's actions, to petitioning executive branch agencies, to issuing their own legislation and regulations. *See, e.g.*, Massachusetts v. EPA, 549 U.S. 497 (2007); CLIMATE RISK DISCLOSURE PETITION, *supra* note 9; Kevin L. Doran, *U.S. Sub-Federal Climate Change Initiatives: An Irrational Means to a Rational End?*, 26 VA. ENVTL. L.J. 189, 190–91, 208 n.69 (2008) (noting the wide extent of sub-federal governmental entity efforts to address climate change issues and contrasting that industrious approach with the federal government's lack of action).

16. *Massachusetts v. EPA*, 549 U.S. at 499 (recognizing the existence of climate change and the need for the federal government to act to mitigate some of the effects).

17. CLIMATE RISK DISCLOSURE PETITION, *supra* note 9, at 6 (citing INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *Summary for Policymakers*, *in* CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS 5, 7 (Susan Solomon et al. eds., 2007), *available at* http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf).

18. CLIMATE RISK DISCLOSURE PETITION, *supra* note 9, at 28; *cf.* Matthew D. Zinn, *Adapting to Climate Change: Environmental Law in a Warmer World*, 34 ECOLOGY L.Q. 61, 68–69 (2007) (noting, during a discussion of environmental law's evolution, that water will become more of a contested element as climate change progresses).

19. The most illustrative examples in recent history are Hurricanes Katrina and Rita in 2005, which impacted many of the largest companies in the United States, with nearly half of the S&P 500's 100 largest members reporting significant impacts in their 2005 10-K filings. DAVID GARDINER ET AL., CLIMATE RISK DISCLOSURE BY THE S&P 500, at 34 (2007),

knowledge that a corporation had considered potential risks may be important to its investors. Risks due to indirect effects of both regulatory and physical changes can also impact corporations' business.[20] These results, among others, represent the breadth and complexity of issues corporations should consider when determining what constitutes a trend, demand, commitment, event, or uncertainty material to the company's business.[21] Mitigating or planning for climate change is complicated by the magnitude and permanent nature of potential effects, and great uncertainty about what will happen and when it will happen. Despite investor demand for information relating to climate change, corporations balked at the idea of including information relating to the impact of climate change, deeming the impacts too uncertain and remote in time to merit disclosure.[22]

As public awareness of climate change has grown, so has the certainty there will be some kind of effect, whether legislative, regulatory, economic, or physical. The time has passed when companies could choose not to address the potential risks—a more defined concept of the potential widespread effects of climate change has created a greater demand from investors to consider the impact on corporations' financial conditions. Even when corporations have large and flourishing sustainability initiatives or voluntarily participate in public disclosure programs, it is rare to see "complete" disclosure.[23] Shareholders nationally began demanding more

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available at http://www.calvert.com/pdf/ceres_calvert_sandp_500.pdf.

20. These indirect changes may include shifts in the market that are advantageous for some corporations and harmful to others, like an increased demand for renewable energy technologies or products or the opportunity to expand into a new market segment as technology progresses. *See, e.g.*, CLIMATE RISK DISCLOSURE PETITION, *supra* note 9, at 31 (discussing the potential ceiling for growth in the oil and gas industry, which would create competitive risks for oil and gas by driving the market towards alternative energy sources, in turn opening up opportunities for companies providing alternative energy sources).

21. This is a brief overview of the risks companies will be facing as the effects of climate change become greater, more defined, and perhaps even more complex. A more detailed examination is available in MICHELLE CHAN-FISHEL, FRIENDS OF THE EARTH—US, FIFTH SURVEY OF CLIMATE CHANGE DISCLOSURE IN SEC FILINGS OF AUTOMOBILE, INSURANCE, OIL & GAS, PETROCHEMICAL, AND UTILITIES COMPANIES (2006); CRAIG HANSON ET AL., WORLD RES. INST., GUIDELINES FOR IDENTIFYING BUSINESS RISKS AND OPPORTUNITIES ARISING FROM ECOSYSTEM CHANGE (2008); Elizabeth E. Hancock, Note, *Red Dawn, Blue Thunder, Purple Rain: Corporate Risk of Liability for Global Climate Change and the SEC Disclosure Dilemma*, 17 GEO. INT'L ENVTL. L. REV. 233 (2005).

22. CLIMATE RISK DISCLOSURE PETITION, *supra* note 9, at 7.

23. *See* Kevin L. 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. 721, 725–26, 764 (2009) (criticizing the overall lack of disclosure by S&P 500 companies and noting: "Simply including a climate change keyword is not an adequate assessment of climate change risk," and emphasizing that only 5.5% of the S&P 500 identified even one climate change risk in 2008).

information. In 2007, approximately 10% of all shareholder resolutions specifically related to climate change or renewable energy,[24] and in some industries, support for resolutions seeking reports of greenhouse gas emissions climbed to an average of 30.6% support in for a specific type of resolution in 2008.[25] Additionally, some investment firms, consultancies, new market funds, and indices have responded in part, allowing investors to either profit from climate change-created opportunities or to hedge against loss from the impacts of global warming.[26] Several investor initiatives also responded to the call, representing investors and coalitions of investors and promoting education about climate change, developing models for voluntary disclosure, and fighting for mandatory disclosure.[27] Voluntary reporting frameworks also provide a forum for additional information to be released to investors,[28] but without a guarantee of completeness or accuracy.

Interested investors including environmental interest groups, state treasurers and comptrollers, investors' rights groups, and pension funds banded together, to plead with the SEC to issue climate change disclosure guidance.[29] Their petition was filed with the SEC in 2007 with a supplementary filing in June 2008.[30] The SEC voted in January 2010,[31]

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24. CLIMATE RISK DISCLOSURE PETITION, *supra* note 9, at 42.

25. THE CORPORATE LIBRARY REPORT, *supra* note 7, at 7 (relating that shareholder support for shareholder resolutions in certain industries about climate change increased from 10.8% in 2005 to 18.7% in 2007).

26. *See* CLIMATE RISK DISCLOSURE PETITION, *supra* note 9, at 34–38 (describing some of the new reports, divisions, funds, indices, and profit opportunities that have risen with concern for climate change).

27. *See, e.g.*, *id.* at 39–42.

28. *See, e.g.*, *What We Do: Overview*, CARBON DISCLOSURE PROJECT, https://www.cdproject.net/en-US/WhatWeDo/Pages/overview.aspx (last visited Nov. 2, 2010); *What is GRI?*, GLOBAL REPORTING INITIATIVE, http://www.globalreporting.org/AboutGRI/WhatIsGRI/ (last visited Nov. 2, 2010).

29. CLIMATE RISK DISCLOSURE PETITION, *supra* note 9, at 1–3.

30. Letter from Cal. Pub. Emps. Ret. Sys. et al., to Florence E. Harmon, Acting Sec'y, Sec. & Exch. Comm'n, File No. 4-547: Request for Interpretive Guidance on Climate Risk Disclosure (June 12, 2008) [hereinafter SUPPLEMENT TO CLIMATE RISK DISCLOSURE PETITION], http://www.sec.gov/rules/petitions/2008/petn4-547-supp.pdf. The supplement bolstered the CLIMATE RISK DISCLOSURE PETITION, *supra* note 9, with significant legislative, regulatory, and litigation developments during the previous year, including: the Energy Independence and Security Act of 2007, Pub. L. No. 110-140, 121 Stat. 1492 (codified as amended in scattered sections of 42 U.S.C.); the proposed Lieberman–Warner Climate Security Act of 2007, S. 2191, 110th Cong.; state actions, *e.g.*, BILL RITTER, JR., COLORADO CLIMATE ACTION PLAN: A STRATEGY TO ADDRESS GLOBAL WARMING (2007), http://www.cdphe.state.co.us/ic/coloradoclimateactionplan.pdf; court decisions, *e.g.*, Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin., 538 F.3d 1172 (9th Cir. 2008), Cent. Valley Chrysler–Jeep, Inc. v. Goldstene, 529 F. Supp. 2d 1151

and on February 8, 2010, the SEC issued the Climate Change Guidance, formally instructing corporations, within the existing regulatory framework, to include certain categories of risks related to climate change in their SEC filings.[32]

The Guidance applies the existing disclosure requirements to the issue of climate change,[33] identifying the disclosure requirements in Regulation S-K as the most relevant to climate risk disclosures.[34] The SEC identified four broad topics related to climate change that may trigger disclosure under those rules and regulations: (1) "Impact of Legislation and Regulation"; (2) "International Accord"; (3) "Indirect Consequences of Regulation or Business Trends"; and (4) "Physical Impacts of Climate Change."[35] Each may require disclosure "[d]epending on the facts and circumstances of a particular registrant."[36]

First, the rapidly developing area of climate change regulation and legislation "may trigger disclosure" requirements "pursuant to Items 101, 103, 503(c) and 303 of Regulation S-K"; the SEC encourages the consideration of both positive and negative effects of existing and pending legislation and regulation should be considered.[37] Second, registrants must consider whether international agreements, either pending or existing, could trigger disclosure requirements under the individual registrants' circumstances and if their business is "reasonably likely to be affected by such agreements" to "monitor the progress of any potential agreements and consider the possible impact."[38]

Third, the registrants must consider whether indirect impacts of climate

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(E.D. Cal. 2007); and international events that indicated potential risks for companies. SUPPLEMENT TO CLIMATE RISK DISCLOSURE PETITION, *supra*, at 1–10.

31. *See* Elisse B. Walter, Comm'r, Sec. & Exch. Comm'n, Opening Remarks Regarding Interpretive Guidance Regarding Climate Change (Jan. 27, 2010), http://www.sec.gov/news/speech/2010/spch012710ebw-climate.htm.

32. Commission Guidance Regarding Disclosure Related to Climate Change, 75 Fed. Reg. 6290, 6290 (Feb. 8, 2010) (to be codified at 17 C.F.R. pts. 211, 231, 241) (stating the intended purpose of the guidance is to guide companies in fulfilling their obligations under existing disclosure requirement).

33. *Id.* (going on to state that the "guidance is intended to assist companies in satisfying their disclosure obligations under the federal securities laws and regulations").

34. *Id.* at 6293–95.

35. *Id.* at 6295–96.

36. *Id.* at 6295.

37. *Id.* at 6295–96. Examples of possible consequences given in the guidance include: costs to purchase credits under a cap and trade system; changes to profit or loss from increased or decreased demand for registrants' products, either directly as a result of the legislation or indirectly from changes in the cost of goods; and the costs to retrofit facilities to comply with new emissions limits. *Id.* at 6296.

38. *Id.*

change, including legal, technical, political, and scientific developments, create new opportunities or risks for their corporations. Those opportunities and risks include changing demand for products based on the products' greenhouse gas emissions,[39] increased competition to develop innovative new products, increased demand for alternative energy generation and transmission, and decreased demand for carbon-intense services or products.[40] Additionally, the registrant needs to consider whether its reputation may be affected by disclosure itself.[41] These risks and opportunities, if material, may need to be disclosed as a risk factor under Item 101 or in the Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A). If a registrant changes its business model or repositions itself in the market in response to climate change, then it must change the business description in Item 101. For example, if a car company changes the composition of its fleet to include more hybrid models, that change should be reflected in the company's business description.[42] Fact-specific evaluations of a corporation's situation may lead to inclusion of potential risks or opportunities in the MD&A.[43] Finally, and most obviously, corporations must disclose potential risks arising from the physical risks of climate

39. The Security and Exchange Commission's (SEC's) example is a decreased demand for incandescent light bulbs due to recent legislation, which has increased the demand for compact fluorescent light bulbs. *Id.* at 6296 n.74. Another example is the tax credit for qualified hybrid cars granted by the Energy Policy Act of 2005, Pub. L. No. 109-58, § 1341(a), 119 Stat. 594, 1038 (codified at 26 U.S.C. § 30B (2006)).

40. Commission Guidance, 75 Fed. Reg. at 6296.

41. The potential exists that even the admission of consideration of climate change risks could harm corporations' reputations, and therefore value, depending on their customers, shareholders, or both. Consider, for example, the impact on a coal company known for vehemently and publicly denying climate change if a 10-Q is filed with an acknowledgement of the company's risks from climate change. *But see infra* note 49 and accompanying text for the other side of the coin.

42. There has already been a shift in the amount of environmental data included by large car corporations. *Compare* Ford Motor Co., Annual Report (Form 10-K), at 16 (Mar. 14, 2003) (containing only one reference to hybrid vehicles in the business description, which addressed concerns with regulatory initiatives to support "advanced-technology" vehicles), *with* Ford Motor Co., Annual Report (Form 10-K), at 6, 12, 17 (Feb. 25, 2010) [hereinafter Ford 10-K 2010] (containing seven references to hybrid models in the business description, including mention of the Fusion Hybrid and the Mercury Milan Hybrid).

43. Continuing with the example of Ford Motor Co., the content of the corporation's Management's Discussion and Analysis of Financial condition and Results of Operations (MD&A) in 2010 includes discussion of the Ford's "Drive Green" initiative. Ford 10-K 2010, supra note 41, at 45–46 ("We remain committed to our goal to deliver best-in-class or among the best-in-class fuel efficiency in every new vehicle we produce. . . . We have developed a sustainability strategy that outlines future technology pathways for our vehicle production in the near-, mid-, and long-term.").

change.[44] Potential direct consequences include damage and operation disruption of coastline property as well as decreased production in agricultural business.[45] Potential indirect consequences include increased price for insuring at-risk properties and disrupted operations of major customers or suppliers due to severe weather. Ultimately, the SEC's interpretive guidance "remind[s] companies of their obligations under existing federal securities laws and regulations to consider climate change and its consequences as they prepare disclosure documents."[46]

II. SEC CLIMATE CHANGE GUIDANCE CREATES A GREATER BURDEN ON COMPANIES

The issuance of the SEC Climate Change Guidance means corporations must include a discussion of the potential risks of material climate changes. Considering the widely varied potential impacts of climate change on the regulatory environment, the economic market, and the physical landscape, the evaluation of each risk will be an additional burden on corporations when filing a report under Regulation S-K. The uncertainty surrounding the potential impacts of climate change, the timing of those impacts, and the methods for quantifying potential damage or opportunity place a substantial burden on regulated companies.

The majority of the SEC registrants will need to substantially increase their disclosure of climate change risks from that contained in previous 10-K and 10-Q filings. Although it has been argued that the lack of detailed oversight and review by the SEC has led to a stronger impression of omission of potential risks or opportunities,[47] the disparity between predicted impacts on companies due to the effect of climate change and the lack of discussion in, for example, MD&As indicates a systemic avoidance of climate change risk disclosure. Particularly alarming is the percentage of large companies that do not report *any* climate change information in their

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44. Examples of the physical results of climate change include changes in sea level, arability of farmland, water availability, and increasing severity of weather. Commission Guidance, 75 Fed. Reg. at 6296–97.

45. *Id.* at 6297. Additionally, the Climate Change Guidance lists additional risks specific to the insurance industry. The insurance industry has been advocates' particular focus. The industry, however, has responded with plans to address the increased physical risks. Notably, many insurers have reduced their "near-term catastrophic exposure in both reinsurance and primary insurance coverage along the Gulf Coast and the eastern seaboard." *Id.* at 6297 n.77 (citing U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-07-285, CLIMATE CHANGE: FINANCIAL RISKS TO FEDERAL AND PRIVATE INSURERS IN COMING DECADES ARE POTENTIALLY SIGNIFICANT 32 (2007)).

46. Commission Guidance, 75 Fed. Reg. at 6297.

47. GAO 2004 REPORT, *supra* note 10, at 16.

SEC filings. "In 2008, 76.3% of the S&P 500" 10-Ks had zero mentions of climate change.[48] In some sectors, the majority of companies in the S&P 500 mention climate change in their filings, like utilities (96.8% mention climate change), energy (62.9%), or materials (56.0%).[49] Others, however, where the risks of climate change may not be as readily apparent, show a stunning pattern of omission, for example, financials (9.4%), consumer discretionary (7.0%), health care (4.5%), and telecommunications services (0.0%).[50]

Quantity of disclosure, however, was not the only concern before the SEC Climate Change Guidance was issued; quality also raised flags. In many of the 2008 10-K filings mentioning climate change, the reference is more perfunctory than informative, with just 5.5% of the 2008 S&P 500 identifying even one climate risk and an associated management strategy.[51] The lack of or deficiency in climate risk disclosure indicates most corporations will have to increase their climate risk disclosures. What is unknown, however, is to what extent those corporations will also have to increase the amount of materiality analyses conducted before filing.[52] Corporations will need to either create or formalize their mechanisms for determining materiality—there may not be an adequately prepared group in the corporation. This increased burden on registering corporations is clearly incidental to the purpose of the guidance but cannot be dismissed.

Absent comprehensive disclosure mechanisms, some corporations have voluntarily disclosed some or all of their climate information[53] under the theory that "transparency and accountability are essential to retaining the trust and confidence of key stakeholder constituencies."[54] These

48. Doran, *supra* note 15, at 725–26.

49. *Id.* at 734.

50. *Id.* Note that for the purposes of the survey, "consumer discretionary" was "comprised of automobile and automobile component manufacturers; consumer durables and apparel; consumer services . . . ; media; and retailing and retail distribution companies." *Id.* at 759.

51. *Id.* at 726, 733–34 (calling that limited amount of information a "low hurdle" that companies are still unable to surpass).

52. *Cf.* GAO 2004 REPORT, *supra* note 10, at 16 (reporting several difficulties in determining how thoroughly companies assess climate change risks).

53. Voluntary disclosures are those that are not legally mandated. THE CORPORATE LIBRARY REPORT, *supra* note 7, at 5. The definition of mandatory disclosures excludes some required disclosures under state law that fall outside the scope of this Recent Development. *See* Commission Guidance Regarding Disclosure Related to Climate Change, 75 Fed. Reg. 6290, 6292 n.23 (Feb. 8, 2010) (to be codified at 17 C.F.R. pts. 211, 231, 241) (discussing the requirements of some states); CLIMATE RISK DISCLOSURE PETITION, *supra* note 9, at C-3 to C-7 (listing "Mandatory State Statutes and Regulations Regarding Greenhouse Gas Emissions").

54. ZOE RIDDELL & HEIDI WELSH, RISKMETRICS GRP., BEST PRACTICE IN CLIMATE

disclosures, generally in response to stakeholder inquiries,[55] present select information about potential business opportunities or risks connected to climate change.

Independent disclosures pertaining to sustainability initiatives and coalitions, generally run by interest groups, allow corporations to submit their data and control to what extent the individual information is disseminated. Special attention is generally drawn to voluntary disclosures as part of a sustainability or corporate social responsibility effort.[56] While disclosure is desirable, the spin seemingly inherent to publicly available sustainability reports or corporate social responsibility initiatives undermines transparency in greenhouse gas emissions or climate change matters. Other companies provide information to third parties who then analyze the data to compare with other companies and may, in some cases, then distribute it to the public.[57] But are these indices, coupled with optional independent disclosure, sufficient to prepare corporations for measuring and determining the materiality of all risks and opportunities arising from climate change?

Arguably not. Because reporting it is voluntary, corporations who consider the cost of reporting negative information to be greater than not disclosing are able to refrain from disclosure altogether. This not only results in an incomplete picture for investors but also allows corporations to avoid making determinations that may have unfavorable impacts on the corporation, may prompt a negative response from investors, or are simply too expensive or unwieldy to make a materiality determination. Despite the usefulness of the voluntary disclosure initiatives, participation does not necessarily prepare corporations for the additional burden from the SEC Climate Change Guidance.

III. MATERIAL UNCERTAINTY: THE DIFFICULTIES OF PREDICTING CLIMATE CHANGE IMPACTS

Climate change risks and opportunities are not easily quantified, have no discernibly definite timeline on which changes progress, and impact a very

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DISCLOSURE: STANDARDS AND PROCEDURES FOR COMPREHENSIVE REPORTING 3 (2008).

55. *See id.* at 2 ("Key stakeholders in the financial and consumer markets are asking for greenhouse gas emissions data and are interested in how companies are contributing to solutions to climate change.").

56. THE CORPORATE LIBRARY REPORT, *supra* note 7, at 6 (discussing a 2007 study of sustainability reports—voluntary disclosures—and its finding that 90% of the reports "mentioned climate change or global warming" and that thirty-three of fifty sampled reports "had a separate section or chapter" for the topic).

57. Commission Guidance Regarding Disclosure Related to Climate Change, 75 Fed. Reg. 6290, 6292 (Feb. 8, 2010) (to be codified at 17 C.F.R. pts. 211, 231, 241).

wide range of areas in businesses. A combination of institutional resistance to increased regulation or oversight and the magnitude of potential changes stemming from climate change creates a substantial obstacle for companies filing 10-Ks and 10-Qs with the SEC. The fact-based inquiry about whether an event, trend, opportunity, risk, or uncertainty is material to a company's business operations is both the most and least effective provision with respect to disclosure under Regulation S-K, because while it allows the SEC to keep pace with rapid technological development and increased scientific knowledge,[58] the flexibility also allows companies to use their own judgment in what "materiality" means for a particular category of risks. When questioned about whether Regulation S-K provided adequate provisions for environmental disclosures, stakeholders representing reporting entities and investment interests said that the existing regulations were sufficient to capture any potential risks and that the regulations' flexibility provided necessary discretion to the reporting companies.[59] They argued that the self-determination of materiality was necessary to accommodate the variety in corporations' circumstances.[60]

With respect to climate change, the greatest concern to corporations is the incredible uncertainty found in environmental risk. Quantifying environmental risks is difficult in all circumstances. Opposition to more specific guidance about the disclosure of environmental risks argues that rigid definitions of materiality and probability would create misleading data. Additionally, "uncertainties about the nature and extent of environmental contamination, potential remediation costs, and the extent of the company's liability all affect the feasibility of deriving precise estimates."[61] Compare that statement to commentaries about climate change disclosure. One scholar writes: "While science is making it increasingly clear that greenhouse-gas emissions are environmentally destructive, and there is a possibility of future regulation, there are as yet no 'reasonably likely' material consequences for that destruction . . . ."[62] Even SEC Commissioner Kathleen Casey voiced her concerns about the uncertainty of climate change impacts and the timing of the guidance while

58. *Id.* at 6294.

59. GAO 2004 REPORT, *supra* note 10, at 3.

60. *Id.* at 30 ("[C]ompany representatives maintained that existing guidance on materiality is sufficiently clear and necessarily flexible to accommodate companies' individual circumstances.").

61. *Id.*

62. Joo, *supra* note 5, at 688–89 ("While a company's carbon impact is certainly likely to affect *the environment*, it is a stretch to say such emissions are 'reasonably likely to have a material effect' on the *company* under current law.").

the regulatory and legislative framework for climate change was in flux.[63] It is in the face of such reluctance that the SEC issued the Guidance in February 2010, and it is from such a position that corporations must begin thorough research into the potential impacts of climate change if they intend to fully comply with the SEC Climate Change Guidance.[64]

Many SEC disclosure obligations contain an element of uncertainty. It is rare, however, for every aspect of the risk to be uncertain. The SEC's Year 2000 (Y2K) Release (Y2K Release)[65] included a large forward-looking component.[66] Similar to the SEC Climate Change Guidance, companies were required to disclose if the consequences of their Y2K issues, without taking into account any remediation efforts, would have a material effect on the company's financial condition or business.[67] Also like climate change, there was a broader federal government interest in the issue, which may have (in both cases), spurred the SEC's decision to release disclosure guidance.[68] Ultimately, however, there was a limit on how much information companies would have to disclose and for how long the

63. *See* Kathleen L. Casey, Comm'r, Sec. & Exch. Comm'n, Statement at Open Meeting—Interpretive Release Regarding Disclosure of Climate Change Matters (Jan. 27, 2010), http://www.sec.gov/news/speech/2010/spch012710klc-climate.htm [hereinafter Casey Statement]. Casey refused to support the Guidance, arguing that: "This guidance is premature at best, as the science surrounding global warming remains far from settled." *Id.*

64. In no way is the Author trying to argue that every company will have to include every potential risk. The Guidance has already focused companies' determinations on requests that are particular to their circumstances and businesses.

65. Statement of the Commission Regarding Disclosure of Year 2000 Issues and Consequences by Public Companies, Investment Advisers, Investment Companies, and Municipal Securities Issuers, 63 Fed. Reg. 41,394 (Aug. 4, 1998) (codified at 17 C.F.R. pts. 231, 241, 271, 276) [hereinafter Y2K Release].

66. The Year 2000 (Y2K) problem was an issue at the turn of the century about the ability of computer programs to allow for dates past December 31, 1999. *See generally* Robert G. Gerber, Comment, *Computers and the Year 2000: Are You Ready?*, 30 J. MARSHALL L. REV. 837 (1997).

67. Jonathan M. Moulton & Joseph S. Rosen, *SEC Disclosure Requirements and the 1998 Year 2000 Release: A Continuation of Policy*, 5 B.U. J. SCI. & TECH. L. 11, 15 (1999) (noting that since the SEC expected that Y2K issues would be, absent remediation efforts, material for the vast majority of registrants, it also expected this condition to require most registrants to disclose).

68. *Compare id.* at 20 (discussing congressional interest in preparedness for the potential Y2K effects), *with* Casey Statement, *supra* note 62 (protesting that since climate change is a "hotter" topic, there is more political attention in that regulatory arena), *and* Troy A. Paredes, Comm'r, Sec. & Exch. Comm'n, Statement Regarding Commission Guidance Regarding Disclosure Related to Climate Change (Jan. 27, 2010), http://www.sec.gov/news/speech/2010/spch012710tap-climate.htm (expressing concern that the SEC Climate Change Guidance does not strike a neutral tone, but instead reflects the Commission's insertion into the climate change debate "by lending support to a particular view of climate change").

information would need to be included in SEC filings. The temporally limited nature of the Y2K issue made the determination of materiality much more feasible for companies. The impacts of Y2K were not known at the time—and certainly turned out not to live up to the hype—but the duration of the issue was limited. Therefore, while the Y2K Release arguably increased the registrants' disclosure obligations, the determination of the additional information was specific, thus not overly burdensome.

Additionally, some relatively dynamic information of unlimited duration has been specifically required by the SEC. The Sarbanes–Oxley Act of 2002 (SOX)[69] is generally criticized for the large burden it places on corporations.[70] As part of the extensive reforms initiated by SOX, publicly traded companies are required to disclose their internal processes and controls.[71] The disclosure obligation mandates "on-going documentation" as well as one-time expenses to ensure compliance.[72] Determining the information for SEC filings, however, while time-consuming and costly, is still focused on assessing current conditions within the corporation, not forward-looking or external forces. The burden on companies, excluding the need for ongoing documentation, has been their compliance with the legislation.[73] Corporations generally already have knowledge of what must be included in the 10-K and 10-Q filings. Therefore, while the scope of the requirements is similarly stretched across the entire corporation, climate change risk disclosure must necessarily go further because of its forward-looking nature, thus creating a greater burden for corporations.

IV. UNCERTAIN AND INTANGIBLE: THE COMPLICATIONS OF "MEASURING" CLIMATE CHANGE

It would be impossible to suggest a single method for all companies

69. Pub. L. No. 107-204, 116 Stat. 745 (codified as amended in scattered sections of 15 U.S.C.).

70. *See, e.g.*, Steven A. Ramirez, *The End of Corporate Governance Law: Optimizing Regulatory Structures for a Race to the Top*, 24 YALE J. ON REG. 313, 323 (2007) (summarizing the commentary on the haste in which the Sarbanes–Oxley Act (SOX) was passed and the criticisms that flow therefrom).

71. SOX § 404 (codified at 15 U.S.C. § 7262).

72. Stephen M. Bainbridge, *Sarbanes–Oxley: Legislating in Haste, Repenting in Leisure*, 2 CORP. GOVERNANCE L. REV. 69, 86 (2006).

73. Some commentators have suggested that perhaps a better response to the Enron scandal would have been to let the SEC take the lead on crafting regulation, rather than rushing SOX into force. *See* Ramirez, *supra* note 69, at 324 ("The rush to enact SOX in the shadow of an election did not enhance its institutional functioning and resulted in an Act that imposed significant compliance costs with too few positive benefits . . . ."); Bainbridge, *supra* note 71, at 96 ("It's time for [Congress and the President] to go back and grant the SEC clear authority to provide carefully crafted regulatory relief . . . .").

subject to SEC security regulations to assess the risks and opportunities to their business operations. The broad nature of the required categories depends heavily on the industry, geographic location, products, services, and markets the company exists and serves. There are, however, universal concerns. While some may apply more to one company than others, each company determining what events, trends, risks, opportunities, and uncertainties are likely to have a material effect should be aware of at least the existence of such concerns.

Corporations preparing to disclose climate change risks will not have the luxury of focusing merely on the fallout from disclosure. First, the management will need to determine what risks are possible, which are reasonably likely to occur, and whether the occurrence would have a material impact on the company's business situation. Only then can the focus turn to what those disclosures will mean for the company.

Unlike SOX disclosures, companies cannot simply report information that is already in existence, known to them, and entirely internal. They must also consider external factors, including information about pending or enacted legislation, potential impacts on their suppliers or consumers, market trends, and much more. This type of information is not impossible to obtain, but does require a greater commitment of resources. Thorough analysis of the compiled information is also required to determine whether there is a likely material impact on the company's financial condition.[74]

While the SEC does not require companies to make forecasts or projections,[75] it does require companies to look at all relevant information, even if the information used to make the determination is not subject to disclosure regulations.[76] There are several potential ways to measure risks. Corporations may begin to look outside of their own historical trends or industries for ideas, which could include elements of the quantitative risk analysis model or stress testing and scenario analysis of the financial sector,[77] or may leverage the experience of the insurance industry in

74. Further, considering the investor-oriented nature of the SEC Climate Change Guidance's origins, to avoid liability corporations would be best served by considering whether a reasonable investor would want to know about a potential risk or opportunity relating to climate change. This question, while the basis of all disclosures, is particularly relevant because of the great deal of attention currently given to climate change and greenhouse gas emissions data.

75. *See* 17 C.F.R. § 229.101(b) (2010).

76. *See* Commission Guidance Regarding Disclosure Related to Climate Change, 75 Fed. Reg. 6290, 6295 (Feb. 8, 2010) (to be codified at 17 C.F.R. pts. 211, 231, 241). The Guidance also explicitly references how much more information management is able to obtain today compared with two decades ago, and reminds companies that they should evaluate all of that data in a timely manner. *Id.*

77. James Fanto, *Anticipating the Unthinkable: The Adequacy of Risk Management in Finance and*

measuring potential physical impacts of climate change, particularly those related to severe weather.[78]

Of special concern to corporations and certainly the most likely to burden companies when preparing 10-Ks or 10-Qs is the MD&A requirement to discuss reasonably likely known uncertainties.[79] This requirement raises concerns with respect to the temporal uncertainties of climate change. Impacts in the legislative and regulatory area and in the legal proceedings area have begun to occur. There have been efforts to address climate change at the international, national, regional, and state levels.[80] These efforts can be tracked and potential implications can be predicted, but that type of analysis requires a dedicated resource and knowledge of the regulatory schemes in all geographic regions in which the company has operations, suppliers, or clients. That is a substantially larger burden than one subject matter expert could reasonably be expected to be familiar with and may require additional resources to hire outside consultants for regulatory or legislative risk analysis.

The uncertainty of physical climate change effects, while likely not a reason to avoid disclosure altogether, presents more substantial challenges for corporations. Uncertainty about the magnitude of potential physical risks and changes must be addressed, if not in the Item 503 risk disclosures, then in the Item 303(c) MD&A.[81] The unknown nature and magnitude of climate change's physical impacts is well-publicized by those who oppose

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Environmental Studies, 44 WAKE FOREST L. REV. 731, 746 (2009) (describing the failures in risk management and analysis that contributed to the financial meltdown in 2008 and proposing ways in which to avoid similar shortcomings in climate change risk analysis).

78. *See* Howard C. Kunreuther & Erwann O. Michel-Kerjan, *Climate Change, Insurability of Large-Scale Disasters, and the Emerging Liability Challenge*, 155 U. PA. L. REV. 1795, 1813, 1822 (2007) (discussing the impact that large-scale risk, when coupled with dramatic uncertainty, has on insurance underwriters and noting that the underwriters are "averse to ambiguity").

79. *See* Perry E. Wallace, *Climate Change, Fiduciary Duty, and Corporate Disclosure: Are Things Heating Up in the Boardroom?*, 26 VA. ENVTL. L.J. 293, 307–08 (2008) (quoting *In re* Caterpillar Inc., 50 S.E.C. 903, 912 (1992) (holding that the company should have made disclosures about events deriving from economic policy changes that could in the future have a material negative financial impact)) (discussing how forward-looking considerations should be included in the discussion of business risks).

80. *See generally* CLIMATE RISK DISCLOSURE PETITION, *supra* note 9, at C-1 to D-10.

81. Perry E. Wallace, *Climate Change, Corporate Strategy, and Corporate Law Duties*, 44 WAKE FOREST L. REV. 757, 767, 774–75 (2009) (discussing the requirement for companies to look at future risks and identifying MD&A as the most applicable provision of Regulation S-K with respect to disclosing climate change). *But see* Joo, *supra* note 5, at 689–90 (claiming the materiality determination would allow companies to avoid disclosure of legislative change impacts in the MD&A until there was a reasonable determination of how the law was going to be implemented, which could take several years).

taking action.[82] The truth is that, with respect to climate change, it is "difficult to differentiate a particular pattern change . . . caused by anthropogenic climate change from one caused by natural variability."[83] The unknown impacts of climate change and the uncertain future of mitigation efforts presents a great challenge to corporations. Not only must they determine which science has been deemed the most credible, but they also must determine which of the conflicting scientific opinions most closely aligns with their corporate culture or management beliefs, and, in some cases, which opinion would allow for the lowest amount of disclosure of physical risks.[84]

But beyond the difficulties inherent to measuring a global phenomenon of unprecedented scale—though not to make light of that challenge—there are additional reasons for resistance that must be contemplated. Measuring and addressing risks, and possibly even determining the opportunities of climate change, will require a substantial commitment to research and development. While there is potential for what Professor McFarland refers to as "the long horizon of profitability" in the environmental arena,[85] that type of gain is difficult to justify to shareholders who may be seeing a present loss.

CONCLUSION: DOES THE BENEFIT OUTWEIGH THE BURDEN?

There is much uncertainty surrounding the science, the politics, and the social attitude around climate change. Of course, there is a substantial amount of uncertainty in any weather prediction. It would be foolish for corporations to simply conclude that the effects of climate change are too remote and the impacts are too distant and uncertain to predict. The risks stemming from climate change cannot be ignored; uncertainty needs to be a major part of 10-K disclosures. The burden on management is simply not more important than providing complete information to investors. The basis of securities law in the United States has been to provide complete

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82. *See, e.g.*, Casey Statement, *supra* note 62; Paredes, *supra* note 67.

83. Kunreuther & Michel-Kerjan, *supra* note 77, at 1833 (quoting David A. Grossman, *Warming Up to a Not-So-Radical Idea: Tort-Based Climate Change Litigation*, 28 COLUM. J. ENVTL. L. 1, 24 (2003)) (continuing, however, to say that the uncertainty does not eliminate the possibility of insurance recovery for damaged caused by the existence of climate change, despite the source of the change).

84. *But see* THE CORPORATE LIBRARY REPORT, *supra* note 7, at 15 (reporting disclosure in SEC filings of physical risks to operations from climate change impacts by several corporations in the electric power industry).

85. Jeffrey M. McFarland, *Warming Up to Climate Change Risk Disclosure*, 14 FORDHAM J. CORP. & FIN. L. 281, 296 (2009).

information to the investor to allow fully informed decisionmaking.[86] That goal cannot be abandoned because disclosing information has become too difficult.

There may be benefits to corporations in disclosing climate change risks and opportunities. While the initial costs of coming into compliance may be high, there is a substantial amount of social capital available to corporations that embrace the mitigation of climate change and greenhouse gas reductions. In addition, there are often tax advantages or other incentives from governmental entities for climate-related initiatives. Ultimately, in the words of Rupert Murdoch, "acting on [climate change] is simply good business."[87]

86. ROBERT REPETTO & DUNCAN AUSTIN, COMING CLEAN: CORPORATE DISCLOSURE OF FINANCIALLY SIGNIFICANT ENVIRONMENTAL RISKS 1 (2000) ("Disclosure of financially material information is essential for the protection of investors against fraud, and for the efficient functioning of financial markets. 'At its core, the primary policy of the federal securities laws today involves the remediation of information asymmetries.'" (quoting JOEL SELIGMAN, THE TRANSFORMATION OF WALL STREET 604 (1995))).

87. Rupert Murdoch, Chairman & Chief Exec. Officer, News Corp., Remarks at Hudson Theatre in New York, NY (May 9, 2007), http://www.newscorp.com/energy/full_speech.html; *see also* CLIMATE RISK DISCLOSURE PETITION, *supra* note 9, at F-1 to F-11 (compiling comments of business owners and executives supporting disclosure of climate change risks).

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