

CLIMATE RISK

DISCLOSURES & PRACTICES

Highlighting the Need for a Standardized Regulatory Disclosure Framework
to Weather the Impacts of Climate Change on Financial Markets

A REPORT OF THE CLIMATE RISK DISCLOSURE LAB



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About the Climate Risk Disclosure Lab

Founded in 2020, the Climate Risk Disclosure Lab seeks to support those in government, the private sector, and civil society who are working to address climate change and the risks it poses to the global financial system, through effective implementation of climate risk disclosure rules. The Lab is an education and policy development initiative created and led by the National Whistleblower Center, the Nicholas Institute for Environmental Policy Solutions at Duke University, and Duke Law's Global Financial Markets Center.

About This Report

Climate change poses serious risks to almost every aspect of the economy, and its impacts will have long-term disruptive effects on financial markets around the world. Currently, these risks are not adequately addressed by financial regulators in the United States. As a result, climate-related information is not accurately incorporated into financial markets, and firms, investors, and stakeholders remain ill-equipped to weather the inevitable effects of climate change.

This report highlights the potential consequences of climate change on financial markets, and emphasizes the need for a standard, robust, decision-useful, and mandatory climate-risk disclosure framework.

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Executive Summary



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The climate crisis poses immense and immediate risks to financial systems around the world. If climate change were to cause sudden and widespread asset deflation across numerous sectors, as many experts worry, a painful global recession would almost inevitably follow. In contrast, if businesses, investors, asset managers, and other stakeholders were to truly grapple with climate change reality and adjust business models to rapidly deploy renewable energy and other low-carbon technologies as well as strategies for making the world more resilient to climate-related shocks, they could help usher in an era of economic revitalization.

Climate change poses two types of risk to financial assets: “physical risk,” or the risk that companies will not be able to handle the physical impacts of climate-related events, and “transition risk,” the risk that companies will fail to prepare for the inevitable transition of the economy to one that relies on low-carbon energy sources. Climate-related events such as sea level rise, intensified wildfires and floods, and ocean acidification are already damaging public infrastructure and private property. Both types of damage have snowballing effects, diminishing property values, devaluing collateralized assets, and increasing insurance premiums while decreasing insurance coverage.

Transition risk is a major concern because many companies do not take seriously the enormity of efforts underway in both the public and private sectors to change policies, technologies, and business practices to combat climate change. These efforts lead inevitably to disinvestment in carbon-intensive assets, companies, and industries.

Companies that do not fully account for climate-related physical and transition risks will likely experience significant losses and many will be forced to liquidate. Conversely, as institutional investors are showing great eagerness to deploy capital toward sustainable technologies, and as policymakers around the world are looking for ways to catalyze the changes that their constituents are demanding, businesses that embrace the transition to a low-carbon economy will receive plenty of support.

Investors and financial markets increasingly demand the disclosure of material, climate-related risk information from public companies in order to adequately value their investments, price risk accurately, and efficiently facilitate the allocation of capital. The disclosure of climate-related risks is essential for market participants and financial regulators to ensure that public companies are managing and measuring climate-related risks. As a result, public companies and issuers face increasing pressure to identify, measure, and communicate climate change risks.

The most efficient way to ensure the accurate and timely dissemination of information is through a robust and mandatory disclosure framework. The Securities and Exchange Commission (“SEC”) requires public companies to disclose information related to their financial position and performance, future prospects, and material risks. These disclosure requirements allow investors to make accurate valuations, compare competing investment opportunities, and make confident and efficient capital allocations. Unfortunately, the existing SEC interpretative guidance has failed to produce comprehensive, comparable, and consistent

climate-related disclosures by public companies.

This three-part Climate Risk Disclosure Lab report highlights the need for a mandatory and robust disclosure framework for climate-related risks. The report begins by discussing the importance of climate-related disclosure, and the risks that climate change pose to the economy. It then assesses how climate-related disclosures can benefit investors, issuers, and financial markets. Next, the report assesses how climate-related risks currently fit within existing SEC disclosure requirements. The report concludes by examining current best practices and recent proposals to establish a mandatory disclosure framework for climate-related risks.

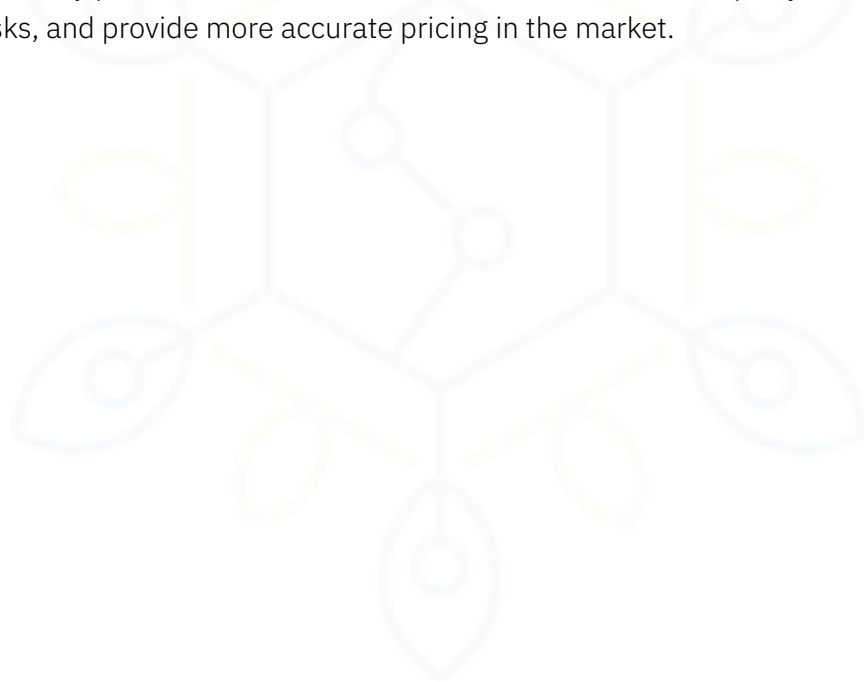
There are currently four SEC requirements in Regulation S-K that potentially require firms to disclose climate-related information. First, Item 101 requires firms to disclose material costs relating to their business operations, including the costs of complying with environmental laws and regulations. Second, Item 103 requires firms to disclose most legal proceedings to which they or their subsidiaries are a party, unless the proceeding consists of ordinary routine litigation that is incidental to business. Item 103 has a specific environmental exception, designating certain environmental proceedings as being outside the scope of ordinary litigation. Third, Item 105 requires firms to disclose the most significant factors that make investments in their business speculative or risky. Item 105 requires disclosure of firm-specific information; for example, an airline must disclose that its planes are no longer in compliance with environmental standards, if bringing them into compliance would have a material financial impact on the firm. However, firms are not required to disclose, pursuant to Item 105, generic climate risks that could apply to any company. Finally, Item 303 is a broad and subjective disclosure requirement that generally requires management to disclose all known material events and uncertainties that may alter future operating results or financial conditions beyond what would otherwise be indicated by reported financial information. Item 303 requires, for example, disclosure from a brewery located in an area where natural water levels were falling if the brewery believed that water depletion would continue and that the inability to access natural water would have a material impact on its operations.

The report finds that these requirements have not led to sufficient, or consistent, assessment and communication of climate-related risks by public companies. The absence of a comprehensive mandatory framework for climate-related disclosures has led to the proliferation of multiple voluntary standards. The Task-Force on Climate-related Financial Disclosures (“TCFD”), the Sustainability Accounting Standards Board (“SASB”), the Global Reporting Initiative (“GRI”), the Principles for Responsible Investment (“PRI”), the Partnership for Carbon Accounting Financials (“PCAF”), and CDP have all developed standards and systems that aim to help firms and investors identify, measure, and communicate climate-related information and incorporate that information into their business practices.

Though these regimes and standards are useful in providing guidance to firms and investors, the wide range of voluntary practices and templates allows companies to omit unfavorable information and use their own scope and calculation methods when disclosing climate risks. This lack of consistency in

disclosure standards and practices impedes the ability of firms to know what climate-related information must be disclosed, and it makes it impossible for investors to adequately understand the climate risks their investments are exposed to. This uncertainty makes it difficult for investors to compare firms and results in the mispricing of climate-related risks in financial markets.

A standard, robust, and mandatory disclosure framework would thus benefit investors and issuers alike. It would have broad market and social benefits, spurring greater productivity and creating more resilient economies. A mandatory framework would benefit investors by allowing easy company comparisons, promoting efficient capital allocation, decreasing search costs, making it easier to hold companies accountable, and protecting the reputation of institutional investors. Additionally, such a framework would benefit firms by minimizing shareholder and stakeholder information requests. It would also encourage firms to identify adaptation measures and emerging opportunities, and make it easier for firms to communicate that information to investors. Such a framework would lead to more confident long-term investments, a decrease in the cost of capital, and an increase in the competitiveness and reputation of firms that demonstrate their commitment to sustainable growth. Finally, a standard and robust disclosure framework for climate-related risks would encourage the private-sector to identify and implement sustainability practices, remove the risks associated with third-party analyses of companies' climate change risks, and provide more accurate pricing in the market.





Introduction



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Climate change poses a serious, systemic threat to financial markets worldwide. Not only will the physical consequences of climate change be dire, but the transition away from fossil fuels could render industries and business models obsolete. As the material risks presented by climate change become increasingly apparent, investors are demanding more, and better, information about the risks their assets are exposed to.

Companies need to be aware of climate-related risks so they can accurately value projects, forecast market trends, implement adaptation measures, and identify emerging opportunities. Investors need to be aware of climate-related risks so they can accurately compare firms, engage in effective risk-management, and allocate capital more confidently and efficiently.

The most efficient way to ensure accurate, transparent, and timely transmission of information about a company to investors is through effective and enforceable disclosure requirements. But current regulations do little to require, let alone enforce, the disclosure of climate-related risks. The absence of climate-related corporate disclosure regulations leaves companies to use their own metrics, choose their own scope, and employ their own calculation methods when disclosing climate risks—if they decide to disclose them at all.

This report emphasizes the need for a mandatory disclosure framework for climate-related risks. Such a framework would compel public companies to identify climate-related risks and to develop strategies to mitigate, measure, report, and communicate those risks. The report begins by discussing the importance of climate-related disclosure and the risks that climate change poses to the financial system. It then assesses the benefits of increased climate-related disclosure to investors, issuers, and financial markets, before analyzing current climate-related disclosure requirements and practices in the United States. The report concludes by surveying calls and proposals to establish thorough, efficient, and enforceable disclosure frameworks for climate-related risks.



PART 1

The Need for Effective Disclosure Requirements



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1.1 The Importance of Disclosure Generally

Since the 1930's, the Securities and Exchange Commission ("SEC") has required U.S. public companies to file reports in which they must disclose information related to their financial position and performance, future prospects, as well as accounting-based information.¹ At the core of SEC disclosure requirements are the annual and quarterly reports that must be filed by U.S.-based companies and foreign private issuers with shares listed on a U.S. exchange. These reports are meant to provide investors with material information regarding a firm's financial health and inform investors of the significant factors that make a firm speculative or risky.² By providing investors with a comprehensive overview of a firm's business as well as the firm's potential risk exposures, disclosure is essential in reducing investor uncertainty and allowing investors to make efficient and accurate valuations. Disclosure also allows investors to make accurate comparisons among competing investment opportunities.

Investors rely on the efficient valuation of firms in their decisions to allocate capital and valuation relies on the accurate, transparent, and timely disclosure of material information. As noted by Michael Bloomberg: "Increasing transparency makes markets more efficient, and economies more stable and resilient."³

1 JAMES D. COX ET AL., *SECURITIES REGULATION: CASES AND MATERIALS*, 554 (9th ed. 2019).

2 Ole-Kristian Hope et al., *The Benefits of Specific Risk-Factor Disclosures* 7 (Rotman Sch. of Mgmt., Working Paper No. 2457045, Feb. 26, 2016), <https://ssrn.com/abstract=2457045>.

3 TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD), <https://www.fsb-tcf.org/> (last visited July 23, 2020).

1.2 The Specific Need for Climate Change Disclosure

The human impact on the climate and the material risks presented by climate change are significant sources of uncertainty that will play out over long horizons.⁴ Since 1980, the U.S. has sustained over \$1.75 trillion in costs from over 250 climate-related disasters.⁵ Between 2015 and 2019, the economic losses attributable to climate change exceeded \$500 billion.⁶ Continued emissions at historical rates could lead to warming of 1.5°C between 2030 and 2052,⁷ causing irreversible changes in all components of the climate system and severe damage to the global financial system.⁸ Measuring the potential for asset-price corrections due to climate change, one study found that with continued business-as-usual emission paths, asset values at risk from 21st century climate change may be as high as \$24.2 trillion.⁹

Evidence suggests that poor disclosure of the risks associated with climate change causes the market to underreact to climate risks, thereby leading to mispricing in equity markets.¹⁰ It follows that firms and industries with more effective and thorough disclosure practices face less unpriced risk than those with less effective practices.¹¹ According to the Network for Greening the Financial System (“NGFS”), an

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- 4 Michael Barnett et al., *Pricing Uncertainty Induced by Climate Change*, at 3 (Univ. of Ch., Becker Friedman Inst. for Econ., Working Paper No. 2019-109, last revised Nov. 14, 2019), <https://ssrn.com/abstract=3440301>.
 - 5 *Sweeping New Report Provides U.S. Financial Regulators with Key Action Steps to Protect Financial Markets from the Ongoing Climate Crisis*, CERES (June 1, 2020), <https://www.ceres.org/news-center/press-releases/sweeping-new-report-provides-us-financial-regulators-key-action-steps>.
 - 6 *Id.*
 - 7 NETWORK FOR GREENING THE FINANCIAL SYSTEM, A CALL FOR ACTION: CLIMATE CHANGE AS A SOURCE OF FINANCIAL RISK, 11 (April 2019), https://www.banque-france.fr/sites/default/files/media/2019/04/17/ngfs_first_comprehensive_report_-_17042019_0.pdf [hereinafter A Call for Action].
 - 8 *Id.*; See also Jidong Wu et al., *Economic Development and Declining Vulnerability to Climate-Related Disasters in China*, *Environ. Res. Lett.* 13 03401, at 1 (2018), <https://iopscience.iop.org/article/10.1088/1748-9326/aaabd7> (finding that the global direct economic losses caused by climate-related disasters between 1970 and 2012 reached \$2.4 trillion).
 - 9 There are two principal ways in which climate change can affect the value of financial assets. First, it can directly destroy or accelerate the depreciation of capital assets, for example through its connection with extreme weather events. Second, it can change (usually reduce) the outputs achievable with given inputs, which amounts to a change in the return on capital assets, in the productivity of knowledge, and/or in labor productivity and hence wages. See Simon Dietz et al., *‘Climate Value at Risk’ of Global Financial Assets*, *NATURE CLIMATE CHANGE* 6, 676, 678 (2016), <https://doi.org/10.1038/nclimate2972>.
 - 10 See generally Harrison G. Hong et al., *Climate Risks and Market Efficiency*, *J. of ECONOMETRICS* 208, 265–81 (2019) (showing that stock prices generally underreact to climate change risks); see also Philip Krueger et al., *The Importance of Climate Risks for Institutional Investors* 30 (SWISS FIN. INST. Research Paper No. 18-58, 2019), <https://ssrn.com/abstract=3235190> [hereinafter *Importance of Climate Risks*] (noting that many institutional investors believe that equity valuations do not fully reflect climate-change risks).
 - 11 THE STATE OF DISCLOSURE 2017: AN ANALYSIS OF THE EFFECTIVENESS OF SUSTAINABILITY DISCLOSURE IN SEC FILINGS, SASB, at 76 (December 2017), <https://www.sasb.org/wp-content/uploads/2019/08/StateofDisclosure-Report-web112717-1.pdf>



organization consisting of 66 central banks and observers whose jurisdiction covers 44% of global GDP, there is a “strong risk that climate-related financial risks are not fully reflected in asset valuations.”¹² The Sustainability Accounting Standards Board (“SASB”), an organization whose sustainability disclosure standards are used by thousands of companies in the U.S., has found that the current “minimally-compliant” approach to sustainability disclosure has provided the market with inadequate information for proper investment decisions to be made.¹³

Institutional investors are becoming increasingly aware of both the financial risks of climate change and the dangers of poor disclosure.¹⁴ In 2019, the NGFS stated that climate change will affect “all agents in the economy,” and that the effects will be felt across all sectors and geographies.¹⁵ And in 2014, over 400 institutional investors representing over \$24 trillion in assets under management issued a statement expressing the concern that climate change could jeopardize their investments and put the retirement savings of millions of citizens at risk.¹⁶ Climate risk reporting has thus come to be thought of by many investors as having the same importance as traditional financial reporting.¹⁷ BlackRock Chairman and CEO Larry Fink wrote in his 2020 annual letter to CEOs that “climate change is almost invariably the top issue that clients around the world raise with Blackrock,” and warned that the intensification of the climate crisis could bring about a “fundamental reshaping of finance.”¹⁸

Because many investors find current disclosure practices to be insufficient, uninformative, and imprecise,¹⁹ firms are being asked directly to disclose “decision-useful, climate-related financial information.”²⁰ And institutional investors are also expressing their desire for “consistent, reliable, and comparable disclosures” of climate change risks.²¹

[hereinafter State of Disclosure 2017].

12 A CALL FOR ACTION, *supra* note 7, at 4.

13 STATE OF DISCLOSURE 2017, *supra* note 11, at 2.

14 *Id.*

15 A CALL FOR ACTION, *supra* note 7, at 4.

16 2014/2015 GLOBAL INVESTOR STATEMENT ON CLIMATE CHANGE, THE INST. INV. GROUP ON CLIMATE CHANGE (Sep. 18, 2014), <https://www.iigcc.org/download/20142015-global-investor-statement-on-climate-change/?wpdmdl=1599&refresh=5f25d90712c2e1596315911>.

17 See Emirhan Ilhan et al., *Climate Risk Disclosure and Institutional Investors*, at 3 (SWISS FIN. INST. Research Paper Series, Working Paper No. 19-66, last revised Jan. 7, 2020), <https://ssrn.com/abstract=3437178> (noting that a survey of 439 large institutional investors shows that 51% of respondents believe that climate risk reporting is as important as traditional financial reporting, and almost one-third consider it to be more important).

18 Larry Fink, *Larry Fink's Annual Letter To CEOs: A Fundamental Reshaping of Finance*, BLACKROCK (2020), <https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter> [hereinafter Fink, *Fundamental Reshaping*].

19 Ilhan et al., *supra* note 17, at 4.

20 TCFD, 2019 STATUS REPORT, at iii (June 2019), <https://www.fsb-tcdf.org/wp-content/uploads/2019/06/2019-TCFD-Status-Report-FINAL-053119.pdf> [hereinafter 2019 STATUS REPORT].

21 Allison Herren Lee, Comm'r, U.S. Sec. & Exch. Comm'n, “Modernizing” Regulation S-K: Ignoring the Elephant in the Room para. 3 (Jan. 30, 2020), <https://www.sec.gov/news/public-statement/lee-mda-2020-01-30> [hereinafter Lee, *Modernizing S-K*].

1.3 Climate Change Risks

The material risks presented by climate change include physical risks and transition risks.²² The effects of climate change can pose physical risks to companies' assets, infrastructure, labor force, and supply chains. Transition risks include the potential impact of climate-related legislation and regulations, and the market trends associated with the shift towards a lower-carbon economy.

A. Physical Risks

The physical consequences of climate change present the most obvious potential threat to a firm's assets,²³ and investors perceive disclosure of physical climate-related risks as the most important component of climate reporting.²⁴ Climate change presents both acute and chronic physical risks.²⁵

As average temperatures continue to rise, so too will the frequency of acute hazards like floods, intense storms, and heat waves.²⁶ Chronic hazards, such as drought, rising sea levels, and risks of an overall decrease in water quality through salt intrusion²⁷ will increase as well.²⁸ These hazards will have immediate and direct effects on asset values.²⁹ But they also present long-term indirect risks. By damaging assets

22 See generally 2019 STATUS REPORT, *supra* note 20 (discussing that companies generally fail to consistently disclose the physical and transition risks associated with climate change).

23 Commission Guidance Regarding Disclosure Related to Climate Change, Securities Act Release No. 9106, Exchange Act Release No. 61,469, 75 Fed. Reg. 6289, 6291 (Feb 8, 2010) (to be codified at 17 C.F.R. pts. 211, 231 and 241) [hereinafter Commission Guidance].

24 Ilhan et al., *supra* note 17, at 5.

25 TCFD, RECOMMENDATIONS OF THE TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES, at 16 (June 2017), <https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-2017-TCFD-Report-11052018.pdf> [hereinafter 2017 RECOMMENDATIONS].

26 Jonathan Woetzel et al., *Climate Risk and Response: Physical Hazards and Socioeconomic Impacts*, MCKINSEY GLOBAL INST., 10 (Jan. 2020), <https://www.mckinsey.com/business-functions/sustainability/our-insights/climate-risk-and-response-physical-hazards-and-socioeconomic-impacts> [hereinafter Woetzel, *Climate Risk*].

27 Ruth DeFries et al., *The Missing Economic Risks in Assessments of Climate Change Impacts*, GRANTHAM INST. ON CLIMATE CHANGE AND THE ENV'T., 7 (Sep. 2019), <http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2019/09/The-missing-economic-risks-in-assessments-of-climate-change-impacts-2.pdf>.

28 See generally Woetzel, *Climate Risk*, *supra* note 26 (describing climate-related chronic hazards); see also Commission Guidance, *supra* note 23, at 6291 ("Changes in weather patterns have caused the intensification of storms, an increase in sea-levels, extreme temperatures, and a general decrease in water quality.").

29 See Woetzel, *Climate Risk*, *supra* note 26 (explaining that flooding and tropical storms will affect coastal real estate and could force swaths of people to migrate inland, affecting labor forces and distribution chains; extreme weather will damage physical assets; droughts will reduce agricultural capacity; and severe heatwaves will impede work productivity



that serve as collateral for loans or that underpin other investments, reducing property values, increasing insurance premiums or decreasing insurance coverage, diminishing agricultural capacity, and causing labor forces to migrate, the physical consequences of climate change could have profound and long-term effects on financial markets more generally.³⁰ Effective disclosure of physical risks is important for investors, as these risks are often firm and location-specific, and are therefore unobservable without firm disclosure.³¹

B. Transition Risks

Transition risks are categorized as market risks and policy risks.³² Market risks come from the disruption of traditional carbon-focused industries in favor of sustainable technologies, changes in customer preferences, and reputational risks.³³ Policy risks come from increased regulations that may either constrain climate-insensitive action or incentivize sustainability-oriented action.

i. Market Risks

Market risks associated with the transition towards a climate-friendly environment include technological risks, potential changes in customer preference, and reputational risks.

Technological risks arise from climate-related innovations and improvements that support the transition towards a lower-carbon and energy-efficient economic system.³⁴ These developments threaten to disrupt existing markets, practices, products, and business models.³⁵ The transition away from fossil fuels will “affect the competitiveness of certain organizations, their production and distribution costs, and ultimately the demand for their products and services from end users.”³⁶ The Institute of Energy Economics and

and could make entire regions uninhabitable).

30 Rising sea levels will affect insurance companies’ exposures to higher losses from coastal properties, forcing them to increase premiums or decrease coverage. This will affect the credit risk for creditors whose loans are secured by assets, and whose borrowers are located, in those areas. Rising sea levels and salt intrusion could also lower property values in exposed areas, in turn lowering property-tax returns—this could lead to a decrease in the municipal bond ratings, and the spending power of local governments. See Woetzel, *Climate Risk*, *supra* note 26, at 10.

31 Ilhan et al., *supra* note 17, at 4. Unlike regulations, legislation, and market trends, which can be found from sources outside of a firm. It is also difficult to assess climate change risk relating to a firms’ subsidiaries and supply-chain participants without disclosure. See U.S. GOV’T ACCOUNTABILITY OFF., GAO-04-808, ENVIRONMENTAL DISCLOSURE: SEC SHOULD EXPLORE WAYS TO IMPROVE TRACKING AND TRANSPARENCY OF INFORMATION, at 16 (July 14, 24), <https://www.gao.gov/new.items/d04808.pdf> [hereinafter Environmental Disclosure] (“In the case of existing environmental contamination, for example, evaluating the adequacy of companies’ disclosure may require information on the number of sites, the nature of the contamination, projected cleanup costs, and the extent to which the companies’ liability may be shared by others or mitigated by insurance, among other things.”).

32 2017 RECOMMENDATIONS, *supra* note 25, at 5–6.

33 *Id.* at 5.

34 *Id.* at 6.

35 Ilhan et al., *supra* note 17, at 1.

36 2017 RECOMMENDATIONS, *supra* note 25, at 6. Some examples include the development and implementation of efficient air-conditioning and heating sources, industrial motor technologies, electric vehicles, solar and geothermal power, water usage and treatment solutions, battery storage technologies, and carbon capture and storage technologies.

Financial Analysis (“IEEFA”) finds, for example, that the “trend toward lower energy costs and more energy and technological innovation tilts away from fossil fuel investment, which is largely inflationary, volatile, and disruptive to national economic growth strategies.”³⁷ The IEEFA concludes that, as a result of the market effects of climate change, the “fossil fuel sector is no longer a ‘blue chip’ investment in which investors can expect steady, powerful growth in cash and value.”³⁸

Further, as sustainability becomes an increasingly popular topic of public conversation,³⁹ the transition to a sustainable economy will affect customer preferences and the reputation of carbon-focused firms. An abrupt adjustment towards a low-carbon economy could cause rapid losses in the asset values of carbon-focused industries due to customer preferences for carbon-friendly goods and services.⁴⁰ Reputational risks include increased stakeholder concern and negative feedback from environmental groups, and could be exacerbated by the stigmatization of carbon-focused sectors.⁴¹ For example, Larry Fink recently pledged that BlackRock would begin to exit its investments in coal production firms, enhance its “green bond funds,” and put pressure on corporate managers to fight against climate change.⁴²

ii. Policy Risks

Policy risks include the costs associated with potential regulations that aim to limit climate change or to increase sustainable energy sectors.⁴³ Governments and transnational actors have begun implementing climate-focused regulations and encouraging actions to combat climate change,⁴⁴ such as establishing prices for carbon emissions, regulating greenhouse gas (“GHG”) emissions, mandating energy efficiency, and incentivizing and subsidizing certain sustainable services and technologies.⁴⁵ For example, in response to the economic downturn spurred by COVID-19, the world’s 50 largest economies have tied over \$580 billion in stimulus funds to green initiatives in an attempt to steer companies towards more

37 Tom Sanzillo et al., *The Financial Case for Fossil Fuel Divestment*, INST. OF ENERGY ECON. AND FIN. ANALYSIS, 5 (July 2018), https://ieefa.org/wp-content/uploads/2018/07/Divestment-from-Fossil-Fuels_The-Financial-Case_July-2018.pdf.

38 *Id.* at 10.

39 SASB, *THE STATE OF DISCLOSURE REPORT 2016: AN ANALYSIS OF THE EFFECTIVENESS OF SUSTAINABILITY DISCLOSURE IN SEC FILINGS*, at 14 (Dec. 2016), <https://www.sasb.org/wp-content/uploads/2019/08/StateofDisclosure-Report-113016v2-1.pdf> [hereinafter STATE OF DISCLOSURE 2016].

40 2017 RECOMMENDATIONS, *supra* note 25, at 1.

41 *Id.* at 10.

42 BlackRock Global Executive Committee, *Sustainability as BlackRock’s New Standard for Investing*, BLACKROCK (Jan. 14, 2020), <https://www.blackrock.com/corporate/investor-relations/blackrock-client-letter> [hereinafter BLACKROCK, *New Standard for Investing*].

43 Ilhan et al., *supra* note 17, at 4.

44 *See, e.g.*, Chloé Farand, *Spain Unveils Climate Law to Cut Emissions to Net Zero by 2050*, CLIMATECHANGENEWS.COM (May 18, 2020, 5:27pm) (explaining that Spain has introduced a climate law to cut net emissions to zero by 2050 by banning all new coal, oil, and gas extraction projects, ending direct fossil fuel subsidies, and making all new vehicles emission-free by 2040).

45 STATE OF DISCLOSURE 2016, *supra* note 39, at 14; *see also* Russell Gold, *PG&E: The First Climate-Change Bankruptcy, Probably Not the Last*, WALL ST. J. (Jan. 18, 2019, 9:00am), <https://www.wsj.com/articles/pg-e-wildfires-and-the-first-climate-change-bankruptcy-11547820006> (explaining that the market value of German utility companies plummeted when heavy government subsidies for renewable energy undermined utility companies’ business models).



sustainable operations.⁴⁶

The implementation of comprehensive climate change regimes in areas where a firm has operations could raise the price of carbon-based products, reduce demand for hydrocarbons, lengthen project implementation times,⁴⁷ raise compliance costs, and increase its exposure to climate-related litigation in those markets.⁴⁸ For example, ExxonMobil assumes that regulations will likely increase the price of carbon emissions in most areas to \$60/ton by 2030 and \$80/ton by 2040.⁴⁹ The company noted that this “proxy cost of carbon” feeds into their demand model and is “embedded in the price bases that are used to evaluate investment opportunities.”⁵⁰

Sudden regulatory or policy shifts can also create stranded assets. Stranded assets are “assets that have become obsolete or non-performing, but must be recorded on the balance sheet as a loss of profit.”⁵¹ In the context of climate change, this can occur when assets will no longer earn an economic return because of “changes in the market and regulatory environment associated with the transition to a low-carbon economy.”⁵² Large, long-term carbon-focused investments with long depreciation lives, like resource-extraction projects, exploration projects, production projects, or distribution infrastructure projects, may have to be abandoned or retired early, before firms are able to recover their costs.⁵³ A report by Deloitte finds that U.S. shale companies have written down more than \$450 billion in assets since 2010, and that continuing challenges to the oil market could cause a further impairment of \$300 billion by the end of 2020.⁵⁴ Investors consider stranded asset risk to be “very high” in the coal and unconventional oil

46 Sarah McFarlane, *Governments Eye A Green Economic Recovery. Some Industries Aren't Convinced.*, WALL ST. J. (July 7, 2020, 5:10AM), <https://www.wsj.com/articles/governments-eye-a-green-economic-recovery-some-industries-arent-convinced-11594113028?mod=djemCFO>; see also, e.g., Laura Millan Lombrana & Akshat Rathi, *Germany Just Unveiled the World's Greenest Stimulus Plan*, BLOOMBERG GREEN (June 5, 2020, 12:00am), <https://www.bloomberg.com/news/articles/2020-06-05/germany-s-recovery-fund-gets-green-hue-with-its-focus-on-climate?sref=K4GjzrU2> (discussing that Germany's 130-billion-euro recovery budget includes about 41 billion euros for sustainable investments within which 8 billion euros were dedicated to the supply and demand of electric vehicles, while no funds at all were allocated to combustion-engine vehicles).

47 *People v. Exxon Mobil Corp.*, 65 Misc.3d 1233(A), 2019 WL 6795771, at *9 (N.Y. Cty. Sup. Ct. Dec. 10, 2019).

48 2017 RECOMMENDATIONS, *supra* note 25, at 10; see also, e.g., Alec Tyson & Brian Kennedy, *Two-Thirds of Americans Think Government Should Do More On Climate*, PEW RES. CTR.: SCI. & Soc'y (June 23, 2020), <https://www.pewresearch.org/science/2020/06/23/two-thirds-of-americans-think-government-should-do-more-on-climate/> (finding that 65% of Americans believe that the federal government needs to do more to combat climate change); see also, e.g., MORNING CONSULT, *Key Findings On Climate Policy & Carbon Dividends Plan* (Feb. 2020), <https://clcouncil.org/morning-consult-poll.pdf> (noting the results of a recent poll showing that a majority of U.S. voters want the Government to take action to limit carbon emissions and believe that fossil fuel companies should be charged for carbon emissions).

49 *Exxon*, 2019 WL 6795771, at *12.

50 *Id.*

51 Ben Caldecott, *Introduction to Special Issue: Stranded Assets and the Environment*, J. of Sustainable Fin. & Inv., Vol. 7:1, 1–13, at 2 (2017).

52 *Id.*

53 Catherine Morehouse, *Duke VP Likens Gas Plant Buildout Strategy to 15-Year Home Mortgage on Path to Zero Carbon*, UTILITYDIVE.COM (Oct. 18, 2019), <https://www.utilitydive.com/news/duke-vp-likens-gas-plant-buildout-strategy-to-15-year-home-mortgage-on-path/565328/>.

54 Duane Dickson et al., *The Great Compression: Implications of COVID-19 for the US Shale Industry*, DELOITTE, 6 (2020), available at <https://www2.deloitte.com/us/en/pages/energy-and-resources/articles/covid-19-implications-for-us-shale-industry.html>.

producer sectors.⁵⁵

A 2020 survey by the European Corporate Government Institute finds that, in general, regulatory risk disclosure is less important to investors than physical risk disclosure.⁵⁶ Because regulatory risks, unlike physical risks, are “firm independent and regulatory dependent,” they can be obtained from sources outside of the firm.⁵⁷ But stranded asset risk is firm-specific, and thus investors would benefit from increased disclosure of potential regulatory impacts on a firm’s assets subject to climate-change policies. This is especially true where a firm has international assets that are subject to complex, and sometimes competing, climate change policies. Though regulatory information can generally be obtained from outside sources, investors would benefit from understanding the specific risks associated with a firm’s international extraction projects, its cross-border transportation chains, or its large-scale infrastructure projects.⁵⁸ Investors would also benefit from knowing whether existing at-risk assets could be utilized, and therefore remain valuable, in a carbon-free future. In the long run, existing assets that could be repurposed, like gas pipelines that could be converted to transport biogas or hydrogen,⁵⁹ are much more valuable than assets that could be rendered obsolete by regulations and renewables.

55 Ilhan et al., *supra* note 17, at 7.

56 *Id.* at 4.

57 *Id.*

58 *Duke Energy Corp. and Dominion Energy, Inc.* recently abandoned a proposed \$8 billion Atlantic Coast Pipeline project. The companies cited “the increasing legal uncertainty that overhangs large-scale energy and industrial infrastructure development in the United States,” and explained that it was no longer prudent to commit millions of dollars of additional. Increased litigation also raised the cost of the project from an original estimate of \$4.5–\$5 billion to \$8 billion and caused over three years of delays. See Wall St. J. Editorial Bd., Opinion, *Joe Biden’s First Energy Casualty*, THE WALL ST. J. (July 6, 2020, 7:01pm), https://www.wsj.com/articles/joe-bidens-first-energy-casualty-11594076498?mod=itp_ws&mod=&mod=djemITP_h.

59 Catherine Morehouse, *Renewables, Storage Poised to Undercut Natural Gas Prices, Increase Stranded Assets: RMI*, UTILITYDIVE.COM (Sept. 11, 2019), <https://www.utilitydive.com/news/renewables-storage-poised-to-undercut-natural-gas-prices-increase-stranded/562674/>.



1.4 Benefits of Decision-Useful Climate-Risk Disclosure

Standard, efficient, and strict disclosure requirements for climate-related risks would benefit investors and issuers. It would also reduce market inefficiencies and promote sustainability.

A. Benefits for Investors

The lack of disclosure standards has led to a multiplicity of disclosure metrics and methods,⁶⁰ if firms disclose anything at all.⁶¹ This variability makes it difficult, and costly, for investors to compare companies.⁶² The lack of effective comparability in turn makes it more difficult for investors to make confident capital allocations. Further, because of the voluntary nature of climate-related disclosure, issuers can omit items that may be decision-useful and forego using metrics that might otherwise indicate shortcomings.⁶³ A ubiquitous disclosure framework, conforming to a common and transparent standard, would reduce costs and inaccuracies by allowing investors to compare firms more efficiently,⁶⁴ facilitate “cross-firm and cross-industry benchmarking,”⁶⁵ and would “promote more informed investment, credit, and insurance underwriting decisions.”⁶⁶ A recent study by McKinsey found that 85% of investors either agreed or strongly agreed that “more standardization of sustainability reporting” would help them allocate capital more effectively, and 83% either agreed or strongly agreed that it would help them manage risk more effectively.⁶⁷

60 STATE OF DISCLOSURE 2017, *supra* note 11, at 18.

61 Lee, *Modernizing S-K*, *supra* note 21, at para. 4; *see also*, e.g., 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. 721–766, at 733 (2009), available at <http://scholarship.law.unc.edu/ncilj/vol34/iss3/2> (“In 2008, for example, less than a quarter of the companies listed on the S&P index made any reference to climate change in their 10-Ks.”).

62 STATE OF DISCLOSURE 2017, *supra* note 11, at 13.

63 Jill E. Fisch, *Making Sustainability Disclosure Sustainable*, 107 GEO. L. REV. 923, 947 (2019).

64 *See* Joseph F. Keefe & Julie F. Gorte, *Comment Letter on Concept Release on Business and Financial Disclosures Required by Regulation S-K* (July 19, 2016), <https://www.sec.gov/comments/s7-06-16/s70616-152.pdf> (“[B]ecause [sustainability] reporting is almost entirely voluntary, there is no standard governing it, so even when companies do disclose information on related topics, that information may not be comparable.”).

65 Ilhan et al., *supra* note 17, at 18.

66 2017 RECOMMENDATIONS, *supra* note 25, at 17.

67 Sara Bernow et al., *More Than Values: The Value-Based Sustainability Reporting That Investors Want*, MCKINSEY (Aug. 7, 2019), <https://www.mckinsey.com/~media/McKinsey/Business%20Functions/Sustainability/Our%20Insights/More%20than%20values%20The%20value%20based%20sustainability%20reporting%20that%20investors%20want/More%20>

Mandating disclosure for climate-related risks would ensure that all firms disclose decision-useful climate information within the same common framework. This would reduce the search costs for investors seeking sustainability information, who otherwise have to request information from the firm directly or search for the firm’s sustainability information in other areas.⁶⁸

Further, the lack of a mandatory standardized framework for, and the lack of third-party verification of, climate-change disclosure has made it difficult for investors to seek remedies for inaccurate disclosures.⁶⁹ A standardized and mandatory disclosure framework, requiring firms to disclose climate-risks according to specific metrics, would make it easier for investors to hold a corporation accountable for failing to report material climate change risks, as it would give investors a standard against which to evaluate a firm’s disclosure.⁷⁰ Thorough and uniform disclosure would also allow investors to use the reports to “incentivize or pressure corporations to take steps to address risks from climate change.”⁷¹ Standardized frameworks also help to protect the reputation of institutional investors, especially those with longer horizons, and allow them to better incorporate ethical and moral obligations into their portfolios.⁷²

B. Benefits for Issuers

A standardized disclosure framework would benefit issuers as well. It would minimize shareholder and stakeholder information requests, encourage firms to identify adaptation measures and emerging opportunities, encourage confident long-term investments, and possibly decrease the cost of debt. Enhanced disclosure could also improve a corporation’s competitiveness and reputation.⁷³

Absent a mandatory and effective disclosure framework, investors are increasingly asking firms directly to disclose specific climate-related information,⁷⁴ which puts “significant and sometimes competing demands on issuers.”⁷⁵ Producing multiple, and sometimes overlapping, sustainability reports imposes costs and workstreams that could be simplified and mitigated by the implementation of a standardized framework.⁷⁶

than%20values-VF.pdf.

68 See STATE OF DISCLOSURE 2016, *supra* note 39, at 2 (explaining that, as a result of the inconsistency and insufficiency of sustainability disclosure practices, “shareholders frequently seek such information outside normal channels, including through questionnaires and shareholder proposals, which creates information asymmetry, raises red flags with regulators over fair disclosure, and results in unpriced risks”).

69 Lee, *Modernizing S-K*, *supra* note 21, at para. 7.

70 Nina Hart, *Legal Tools for Climate Adaptation Advocacy: Securities Law*, SABIN CTR. FOR CLIMATE CHANGE LAW, COLUM. L. SCH., May 1, 2015, at 1, available at <https://climate.law.columbia.edu/sites/default/files/content/docs/others/Hart-2015-05-Adaptation-Advocacy-Securities-Law.pdf> [hereinafter Hart, *Legal Tools*].

71 *Id.*

72 See *Importance of Climate Risks*, *supra* note 10, at 4. A growing number of investors and firms are screening their investments based on companies’ environmental, labor, or community practices; they are referred to as “socially conscious investors.” See ENVIRONMENTAL DISCLOSURE, *supra* note 31, at 61.

73 Hart, *Legal Tools*, *supra* note 70, at 15.

74 2019 STATUS REPORT, *supra* note 20, at 54.

75 Lee, *Modernizing S-K*, *supra* note 21, at para. 6.

76 *Id.*



Mandating thorough disclosure would also safeguard and improve the profitability of issuers, by requiring them to consider adaptation measures, assess inefficiencies, and identify potential areas for growth.⁷⁷ A mandatory disclosure framework would have the benefit of ensuring that management actively seeks and digests information about climate change risks and opportunities.⁷⁸ Thorough climate-risk analysis would encourage firms to identify emerging markets, such as a potential “trading markets for emission credits related to ‘cap and trade’ programs,”⁷⁹ and to develop climate-focused practices that create circular and efficient uses of materials that could save companies millions.⁸⁰

In fact, CDP, an international nonprofit that supports companies in measuring and managing their environmental impacts and risks, concluded that companies that are actively managing and planning for climate change have outperformed those that are not.⁸¹ CDP found a “strong linkage between environmental performance and financial performance,”⁸² and that corporations making the greatest effort to implement adaptation measures are financially outperforming their competitors.⁸³ In 2015, the Smith School of Enterprise and the Environment at the University of Oxford and Arabesque Asset Management released a comprehensive review of over 200 empirical studies, industry reports, newspaper articles, and books, entitled *From the Stockholder to the Stakeholder*.⁸⁴ The report found that 90% of studies conducted on the cost of capital show sound sustainability standards lower companies’ cost of capital. The report also found that solid ESG practices result in better operational performance and positively influence a firm’s stock price.⁸⁵

BlackRock CEO Larry Fink warned that companies and countries that fail to respond to stakeholders by addressing sustainability risks “will encounter growing skepticism from the markets, and in turn, a higher cost of capital.”⁸⁶ As noted by Fink, a company’s “ability to manage environmental, social, and governance matters demonstrates the leadership and good governance” that is essential to sustainable growth.⁸⁷ Thorough disclosure can thus signal to investors that a company has properly assessed and managed its climate-related risks, which would in turn increase investor and lender confidence, encourage longer-

77 Hart, *Legal Tools*, *supra* note 70, at 2.

78 Further, once management has this sustainability information (that they ought to be seeking as part of responsible stewardship of their firms) there would be minimal additional cost to produce the information for investors.

79 Commission Guidance, *supra* note 23, at 6291.

80 See THE NEW CLIMATE ECONOMY, UNLOCKING THE INCLUSIVE GROWTH STORY OF THE 21ST CENTURY, 7 (2018), https://newclimateeconomy.report/2018/wp-content/uploads/sites/6/2018/09/NCE_2018_ExecutiveSummary_FINAL.pdf [hereinafter *Unlocking Inclusive Growth*] (explaining the value of circular industrial economy, and noting that 95% of plastic packaging material value, representing much as US\$120 billion annually, is lost after first use).

81 CDP NORTH AMERICA INC., CDP NORTH AMERICA ANNUAL REPORT 2019–2020, 18 (2020), *available at* <https://www.cdp.net/en/reports/archive>.

82 *Id.* at 19.

83 Hart, *Legal Tools*, *supra* note 70, at 2.

84 GORDON L. CLARK, ANDREAS FEINER & MICHAEL VIEHS, FROM THE STOCKHOLDER TO THE STAKEHOLDER: HOW SUSTAINABILITY CAN DRIVE FINANCIAL OUTPERFORMANCE 9 (rev. ed. March 2015), *available at* <https://ssrn.com/abstract=2508281>.

85 *Id.* at 8.

86 Fink, *Fundamental Reshaping*, *supra* note 18.

87 *Id.*

term investments, and ultimately improve a company’s bottom line.⁸⁸

Finally, increased sustainability disclosure could decrease the cost of debt capital for carbon-conscious firms. From the Stockholder to the Stakeholder found that credit ratings are positively affected by superior sustainability performance.⁸⁹ Research has also shown that firms with superior environmental management systems have lower credit spreads than their peers, “implying that these companies exhibit a lower cost of debt” than firms with significant environmental concerns.⁹⁰

C. Market Benefits

A strict and thorough disclosure framework would have broad market and social benefits, spurring greater productivity and more resilient economies.⁹¹ Standardized and effective disclosure would encourage the private sector to identify and implement sustainability practices, remove the risks associated with third-party analyses of companies’ climate change risks, and ensure for more accurate pricing in the market.

According to the New Climate Economy (“NCE”), an international initiative examining how to achieve economic growth while dealing with climate change risks, the transition to a low-carbon economy could “deliver economic benefits of US\$26 trillion [by] 2030—and this is a conservative estimate.”⁹² Further, the Task Force on Climate-related Financial Disclosures (“TCFD”), an organization created by the Financial Stability Board to develop and proliferate climate-related disclosures standards, estimates that the expected “transition to a lower-carbon economy will require around \$1 trillion of investments a year for the foreseeable future, generating new investment opportunities.”⁹³ By requiring firms to engage in thorough assessments of potential climate change impacts, a standardized disclosure framework would incentivize firms to identify and create opportunities related to the transition towards a carbon-friendly climate. This could help catalyze new markets for investment and proliferate greater sustainability practices overall.

Standardized disclosure requirements would also remove the risks presented by private entities performing analysis on companies’ climate change risks.⁹⁴ There are myriad external ratings, rankings, indices, and awards that seek to measure the sustainability performance of large public firms. These third-party practices are currently insufficient to provide interested investors with adequate information

88 Hart, *Legal Tools*, *supra* note 70, at 15.

89 Clark et al., *From the Stockholder to the Stakeholder*, *supra* note 84, at 24.

90 *Id.* at 23.

91 UNLOCKING INCLUSIVE GROWTH, *supra* note 80, at 5.

92 *Id.* at 8.

93 2017 RECOMMENDATIONS, *supra* note 25, at ii.

94 Nina Hart, Note, *Moving at A Glacial Pace: What Can State Attorneys General Do about SEC Inattention to Nondisclosure of Financially Material Risks arising from Climate Change?* SABIN CTR. FOR CLIMATE CHANGE L., COLUM. L. SCH. 7 (last updated Feb. 6, 2019), https://climate.law.columbia.edu/sites/default/files/content/docs/Hart-2014-02-SEC-Inattention-to-Climate-Change-Nondisclosure-_0.pdf [hereinafter Hart, Glacial Pace].

about firms' sustainability practices and exposures to climate risks.⁹⁵ The current “lack of consistency and transparency from these rating agencies” imposes more burdens on investors seeking accurate information, thus impeding market efficiency.⁹⁶ To illustrate this issue, a survey conducted on three of the most well-known and publicly available corporate social responsibility rankings published in 2015 found very little consistency across ratings from different agencies.⁹⁷ Similar to the risk posed by credit rating agencies, reliance on private entities for measuring corporate sustainability performance creates “a risk of biased analysis in that analysts might provide more favorable evaluations for fear of otherwise being denied business or information from their clients.”⁹⁸

Finally, a standardized disclosure framework would allow for better overall pricing and hedging of climate risks and opportunities,⁹⁹ and increase liquidity by decreasing the amount of unpriced risk in equity markets.¹⁰⁰ It would allow stakeholders to identify “concentrations of carbon-related assets in the financial sector and the financial system’s exposure to climate-related risks,”¹⁰¹ and make the financial sector less vulnerable to an abrupt climate-related correction.¹⁰²



95 *Id.*

96 Beixin Lin et al., *Are Sustainability Rankings Consistent Across Ratings Agencies?*, CPA J. (July 2017), <https://www.cpajournal.com/2017/07/19/sustainability-rankings-consistent-across-ratings-agencies/>.

97 *Id.*

98 Hart, *Glacial Pace*, *supra* note 94, at 7.

99 Ilhan et al., *supra* note 17, at 11.

100 *Id.* at 2.

101 2017 RECOMMENDATIONS, *supra* note 25, at 2.

102 See Hope et al., *supra* note 2, at 10 (explaining that poor disclosure makes information more costly to extract from financial reports, and as a result, information is “less completely incorporated in market prices”).



PART 2

Climate-Related Disclosure Requirements & Practices



CLIMATE RISK
DISCLOSURE LAB

2.1 Existing SEC Requirements

Despite the myriad material risks presented by climate change, climate change disclosure in the U.S. is largely voluntary and is almost completely unstandardized.¹⁰³ Because company records are generally not available to the public and there is no consensus on which climate risks need to be disclosed, it is almost impossible to know what climate-related information is (1) potentially subject to disclosure by the firm in general, and (2) material in the context of a firm's specific circumstances.¹⁰⁴ Because of the lack of top-down rules in disclosure standards and the difficulty in evaluating current disclosures, companies and enforcement officials are uncertain about what risks must be disclosed and how those risks should be presented.¹⁰⁵

In 2010, the SEC issued a document to guide U.S. public companies on the existing disclosure requirements as they applied to climate change matters.¹⁰⁶ The guidance was issued following years of petitioning from leading investors and environmental groups,¹⁰⁷ and was the last time the SEC issued explicit guidance relating to climate-change disclosure.¹⁰⁸

A. SEC Interpretive Guidance - 2010

In its 2010 interpretive guidance, the SEC indicated that firms are required to disclose certain material climate-related risks under the existing regulatory scheme.¹⁰⁹ According to the guidance, there are four

103 Ilhan et al., *supra* note 17, at 17.

104 See ENVIRONMENTAL DISCLOSURE, *supra* note 31, at 16; see also, e.g., *People v. Exxon Mobil Corp.*, 65 Misc. 3d 1233(A), 119 N.Y.S.3d 829 (N.Y. Sup. Ct. 2019) (finding no failure to disclose when *Exxon* disclosed general carbon pricing estimate but did not disclose location-specific estimated costs that differed substantially from its public estimates).

105 See Hart, *Glacial Pace*, *supra* note 94, at 2.

106 See Commission Guidance, *supra* note 23.

107 Press Release, Ceres, SEC Issues Ground-Breaking Guidance Requiring Corporate Disclosure of Material Climate Change Risks and Opportunities (Jan. 27, 2020), <https://www.ceres.org/index.php/news-center/press-releases/sec-issues-ground-breaking-guidance-requiring-corporate-disclosure>.

108 Lee, *Modernizing S-K*, *supra* note 21, at para. 1. But, in April 2016, the SEC issued a Concept Release in which it discussed potential reforms to Regulation S-K, including the introduction of sustainability disclosure, and solicited comment on the topic of mandatory climate related disclosure. However, this release did not include specific guidance regarding current climate-related disclosure obligations. See Business and Financial Disclosure Required by Regulation S-K, Securities Act Release No. 10,064, Exchange Act Release No. 77,599, 81 Fed. Reg. 23,916 (proposed Apr. 22, 2016).

109 See Commission Guidance, *supra* note 23, at 6290 ("This release outlines our views with respect to our existing

regulations pertinent to disclosure of climate change risks contained in Regulation S-K.¹¹⁰ First, Item 101 requires the issuer to describe all material information, including costs of complying with environmental laws, relating to its business operations and that of its subsidiaries.¹¹¹ Second, Item 103 requires the issuer to describe “any material pending legal proceeding to which it or any of its subsidiaries is a party” and any “material pending legal actions in which its property is the subject of the litigation.”¹¹² Third, Item 105 requires the issuer to disclose the “Risk Factors” that make an investment in the issuer speculative or risky.¹¹³ Finally, Item 303¹¹⁴ includes a “broad range of disclosure items” wherein the firm must discuss its “liquidity, capital resources and results of operations.”¹¹⁵

The SEC also noted that there are four climate-related topics that can trigger mandated disclosure under federal securities laws, while acknowledging that the list is not exhaustive.¹¹⁶ These topics include, (1) legislation and regulation; (2) international accords; (3) indirect consequences of regulation and business trends; and (4) physical impacts of climate change.¹¹⁷

B. 2020 Amendments to Regulation S-K

In August 2020, the SEC adopted amendments intended to “modernize” Regulation S-K.¹¹⁸ The amendments affected Items 101, 103, and 105, which had “not undergone significant revisions in over 30 years.”¹¹⁹ Notably, the rule change did not enhance climate change disclosure requirements. Instead, the amendments are meant to “discourage repetition and the disclosure of information that is not material,” simplify compliance for registrants, and improve the readability of disclosure documents.¹²⁰ One of the key objectives of the amendments is to enhance and emphasize the “principles-based” nature of Regulation S-K by providing registrants with more flexibility to determine what information is “material” and to determine “the appropriate level of detail” for disclosures.¹²¹ Importantly, the SEC acknowledged that “emphasizing a principles-based approach and granting registrants more flexibility to determine what and how much disclosure about a topic to provide could result in the elimination of some information to investors,” but expressed the belief that the costs of such loss will be limited.¹²²

disclosure requirements as they apply to climate change matters.”); *see also* Hart, *Legal Tools*, *supra* note 70, at 4.

110 Commission Guidance, *supra* note 23, at 6293.

111 *Id.*; 17 C.F.R. § 229.101 (2018).

112 Commission Guidance, *supra* note 23, at 6293; 17 C.F.R §229.303 (2018).

113 Commission Guidance, *supra* note 23, at 6294; 17 C.F.R 229.503(c) (2018).

114 17 C.F.R §229.303 (2018).

115 Commission Guidance, *supra* note 23, at 6295.

116 *Id.*

117 *Id.* at 6295–96.

118 Modernization of Regulation S-K Items 101, 105, and 105, Securities Act Release No. 33-10825, File No. S7-11-19, at 1 (Aug. 26, 2020) (to be codified at 17 C.F.R. pts 229, 239, and 240), *available at* <https://www.sec.gov/rules/final/2020/33-10825.pdf>. [hereinafter Modernization of Regulation S-K].

119 *Id.*

120 *Id.*

121 *Id.* at 25.

122 *Id.* at 82.

C. Relevant Regulations

In general, firms are required to disclose information when it is material. The concept of materiality “is woven into disclosure obligations under Regulation S-K.”¹²³ The Supreme Court explained in *TSC Indus., Inc. v. Northway, Inc* that the concept of materiality contemplates information that has a substantial likelihood, under all the circumstances, to have “actual significance in the deliberations of the reasonable shareholder.”¹²⁴ The SEC elaborated on this standard by explaining that “the omission or misstatement of an item in a financial report is material if, in the light of surrounding circumstances, the magnitude of the item is such that it is probable that the judgment of a reasonable person relying upon the report would have been changed or influenced by the inclusion or correction of the item.”¹²⁵ Thus, for information to be material, there must be a substantial likelihood that it will be viewed by the reasonable investor as altering the “total mix” of information made available.¹²⁶ The “total mix” of information refers to the sum of all information reasonably available to investors.¹²⁷

i. Item 101 - Description of Business

Item 101, “Description of Business,”¹²⁸ requires a description of the general development of the registrant’s business that occurred within a period of time that is “material to an understanding of the general development of the business.”¹²⁹ Item 101 explicitly requires firms to disclose certain environmental costs.¹³⁰ First, it requires firms to disclose sources of raw materials, as well as the availability thereof.¹³¹ Here, regulations or market trends pushing towards a carbon-free economy may increase the cost of extraction, transportation, and development of certain materials. This would in turn raise firms’ capital and operational expenditure requirements.¹³² Second, firms must disclose the “material effects that compliance with government regulations, including environmental regulations, may have upon the capital expenditures, earnings, and competitive position of the registrant and its subsidiaries.”¹³³ As

123 Matthew Morreale, *Corporate Disclosure Considerations Related to Climate Change*, in MICHAEL GERRARD & JODY FREEMAN, GLOBAL CLIMATE CHANGE AND U.S. LAW 205, 213 (2nd ed. 2014).

124 *TSC Indus., Inc. v. Northway, Inc.*, 426 U.S. 438, 449 (1976).

125 SEC Staff Accounting Bulletin No. 99, 64 Fed. Reg 45150 (Aug. 12, 1999).

126 *Northway*, 426 U.S. at 449.

127 *Koppel v. 4987 Corp.*, 167 F.3d 125, 132 (2d Cir. 1999).

128 17 C.F.R §229.101(a) (2018).

129 Modernization of Regulation S-K, *supra* note 118, at 15.

130 Commission Guidance, *supra* note 23, at 6293.

131 17 C.F.R §229.101(c)(1)(iii) (2018).

132 For example, in Alberta, Canada, projects involving the development of “oil, bitumen, natural gas, and coal” are overseen by the Alberta Energy Regulator (“AER”). Firms there are subject to myriad requirements and risk facing large fines for noncompliance: they must receive AER approval before the commencement of a project; they must adhere to strict regulations relating to safety, environmental and wildlife protection, noise, waste management, land and water use; they are subject to regular audits and inspections; and, at the close of the project, they must ensure that the land is returned to the same state as it was before the project began. All of these requirements increase the costs associated with the extraction of materials. See ALBERTA ENERGY REGULATOR, HOLDING INDUSTRY ACCOUNTABLE: HOW DOES THE AER REGULATE ENERGY IN ALBERTA: PROJECT LIFE CYCLE, <https://www.aer.ca/protecting-what-matters/holding-industry-accountable/how-does-the-aer-regulate-energy-development-in-alberta/project-life-cycle.html> (last visited Aug. 4, 2020).

133 *Levine v. NL Indus., Inc.*, 926 F.2d 199, 204 (2d Cir. 1991); Modernization of Regulation S-K, *supra* note 118, at 43.

the regulatory framework aimed at reducing climate change becomes more robust and complex, strict regulations will likely affect the “capital expenditures, earnings and competitive position of the registrant and its subsidiaries, as well as the costs of compliance.”¹³⁴

ii. Item 103 - Legal Proceedings

Under Item 103, “Legal Proceedings,” firms must describe any material legal proceedings to which the firm or any of its subsidiaries is a party, or of which any of their property is the subject.¹³⁵ Firms must also disclose “any such proceedings known to be contemplated by governmental authorities.”¹³⁶ Under Item 103, firms are not required to disclose “ordinary routine litigation incidental to the business” when the amount in controversy is below a designated threshold.¹³⁷ The SEC has clarified that “proceedings” include all administrative orders or actions relating to environmental matters—whether or not those orders literally follow a proceeding.¹³⁸

Item 103 provides specific requirements that apply to the disclosure of environmental litigation¹³⁹ by designating certain environmental penalties or proceedings as being outside the scope of “ordinary” litigation.¹⁴⁰ Environmental litigation must be disclosed in any of the following circumstances. First, disclosure is necessary if the proceeding is material to the firm’s business or financial condition.¹⁴¹ Second, disclosure is necessary if the proceeding involves primarily a claim for damages; or involves potential monetary sanctions, capital expenditures, deferred charges or charges to income; and the amount involved, exclusive of interest and costs, exceeds 10% of the current assets of the registrant and its subsidiaries on a consolidated basis.¹⁴² Finally, prior to the 2020 amendments, disclosure of environmental proceedings was required unless the registrant reasonably believes that such proceeding will result in no monetary sanctions or in monetary sanctions, exclusive of interest and costs, of less than \$100,000.¹⁴³ With the 2020 amendment, the SEC removed this \$100,000 threshold in favor of a flexible “materiality standard,” even though it acknowledged stakeholder concerns that removing the threshold

Note that this disclosure under this Item was expanded in August 2020 to include disclosure information regarding compliance with all government regulations. Prior to the 2020 amendments, firms were required only to disclose the cost of compliance with environmental regulations specifically. This amendment was intended to “improve the ability of each registrant to tailor its disclosure to discuss only those governmental regulations that are of particular importance to it.” Modernization of Regulation S-K, *supra* note 118, at 44.

134 17 C.F.R. § 229.101(c)(1)(xii) (2018).

135 17 C.F.R. § 229.103 (2018).

136 *Id.*

137 *Id.*; see also Commission Guidance, *supra* note 23, at 6293.

138 *Memorandum*, Davis Polk & Wardell, Disclosure of Environmental Liabilities in SEC Filings 9 (2004), https://www.davispolk.com/files/08_18_04_sec_memo_04.pdf.

139 Commission Guidance, *supra* note 23, at 6293; see also 17 C.F.R. § 229.103 (2018).

140 Mark N. Duvall & Allyn L. Stern, *SEC Proposes Changes to Reporting Regulations Impacting Environmental Disclosures*, NAT. L. REV. (Sep. 5, 2019), <https://www.natlawreview.com/article/sec-proposes-changes-to-reporting-regulations-impacting-environmental-disclosures>.

141 17 C.F.R. § 229.103 (2018).

142 *Id.*

143 *Id.*

“could result in larger registrants providing less disclosure under Item 103.”¹⁴⁴

Disclosure of environmental litigation is now required only when the proceeding “involves potential monetary sanctions of \$300,000 or more, *or* at the election of the registrant, *such other amount* that the registrant determines is reasonably designed to result in disclosure of any such proceeding that is material to its business or financial condition.”¹⁴⁵ However, disclosure is still required in “all cases for any proceeding when the potential monetary sanctions exceed the lesser of \$1 million or one percent of the current assets of the registrant and its subsidiaries on a consolidated basis.”¹⁴⁶ Finally, if a “registrant chooses to use a threshold other than the \$300,000 threshold, it must disclose this threshold (including any change thereto) in each annual and quarterly report.”¹⁴⁷

iii. Item 105 - Risk Factors

Item 105, “Risk Factors,” is a principles-based requirement that encourages firms to provide disclosure that is “precisely calibrated to their particular circumstances and therefore more meaningful to investors.”¹⁴⁸ Following the 2020 amendments to Regulation S-K, if a registrant’s risk factor disclosure exceeds 15 pages, Item 105(b) requires “in the forepart of the document a series of concise, bulleted or numbered statements summarizing the principal factors that make an investment in the registrant or offering speculative or risky.”¹⁴⁹

Under Item 105, firms must disclose the “material factors that make an investment in the registrant or offering speculative or risky.”¹⁵⁰ Item 105 discourages disclosure of risks “that could apply generically to any registrant or any offering.”¹⁵¹ Instead, Item 105 is aimed at “more specific and relevant” disclosure that is tailored to “the particular circumstances and material risks of individual registrants.”¹⁵² Second, “company risk” includes “risks that are specific to the company; for example, a REIT that owns four properties with significant environmental issues.”¹⁵³

It follows that firms are not required to disclose general dangers of climate change under Item 105, but

144 Modernization of Regulation S-K, *supra* note 118, at 65.

145 *Id.* (emphasis added). The SEC noted that the baseline threshold was increased from \$100,000 to \$300,000 to adjust for inflation. *Id.*

146 *Id.*

147 *Id.*

148 FAST Act Modernization and Simplification of Regulation S-K, Exchange Act Release No. 33-10618, 84 FR 12,674, 12,689 (May 2, 2019).

149 Modernization of Regulation S-K, *supra* note 118, at 69.

150 *Id.* at 73. Note that prior to the 2020 amendments to Regulation S-K, firms were required to disclose “the most significant” factors that make an investment in the registrant or offering speculative or risky. The SEC modified Item 105 by replacing “the most significant factors” with “material factors,” believing such a modification will result in risk factor disclosure that is better “tailored to the particular facts and circumstances of each registrant.” *Id.*

151 17 C.F.R § 229.105 (2018).

152 FAST Act Modernization and Simplification of Regulation S-K, *supra* note 148, at 12,689.

153 *Id.* at 6.

rather to “focus on their own risk identification process.”¹⁵⁴ Disclosure could include, for example, “risks for companies that are particularly sensitive to greenhouse gas regulation, such as those in the energy or transportation sectors.”¹⁵⁵

iv. Item 303 - MD&A

Item 303 of Regulation S-K, “Management’s discussion and analysis of financial condition and results of operations,” (“MD&A”) is a broad and subjective disclosure requirement.¹⁵⁶ It generally requires disclosure of all “material events and uncertainties known to management that would cause reported financial information not to be necessarily indicative of future operating results or of future financial condition.”¹⁵⁷ MD&A disclosure is intended to capture a broad range of risks and be narrowly tailored to the firm.¹⁵⁸ A firm’s obligation under Item 303 is to “provide investors with all material information, customized in light of the company’s particular circumstances, and presented in a manner that best reflects the discussion and analysis of the business as seen through the eyes of those who manage that business.”¹⁵⁹ This information may be non-financial in nature, as non-financial trends may nonetheless bear on the firm’s “financial condition and operating performance.”¹⁶⁰ The three objectives of MD&A are:

1. To provide a narrative explanation of a company’s financial statements that enables investors to see the company through the eyes of management;
2. To enhance the overall financial disclosure and provide the context within which financial information should be analyzed; and
3. To provide information about the quality of, and potential variability of, a company’s earnings and cash flow so that investors can ascertain the likelihood that past performance is indicative of future performance.¹⁶¹

By requiring that an issuer describe any “known trends, events, demands, commitments and uncertainties” that the issuer “reasonably believes” will have a material unfavorable impact on revenue or income from *continuing* operations, Item 303 places “particular emphasis on the registrant’s prospects for the future.”¹⁶² Under Item 103, firms are thus required to identify the condition or circumstance that may produce a negative financial impact, and in turn discuss how that condition will bring about a negative

154 *Id.*

155 HUSCH BLACKWELL, THE SEC REVISITS SUSTAINABILITY: WILL SUSTAINABILITY REPORTING BECOME MANDATORY FOR PUBLICLY-TRADED U.S. CORPORATIONS?, TMT INDUS. INSIDER: ENERGY & ENV’T (Oct. 7, 2016), <https://www.tmtindustryinsider.com/2016/10/the-sec-revisits-sustainability-will-sustainability-reporting-become-mandatory-for-publicly-traded-u-s-corporations/#page=1>.

156 17 C.F.R. § 229.303 (2018).

157 *Id.*

158 Commission Guidance, *supra* note 23, at 6294.

159 FAST Act Modernization and Simplification of Regulation S-K, *supra* note 148, at 12,697

160 Commission Guidance, *supra* note 23, at 6,294.

161 *Id.*

162 *Id.* But the SEC has “not quantified, in Item 303 or otherwise, a specific future time period that must be considered in assessing the impact of a known trend, event or uncertainty that is reasonably likely to occur.” *Id.*

financial impact. In *Litwin v. Blackstone Group, L.P.*, for example, investors sued an asset management company for omitting information regarding a negative trend in the real estate market.¹⁶³ The Court found that the plaintiff adequately alleged that the asset management company was required by Item 303 to disclose information regarding the trend when the focus of the complaint was not that the company failed to disclose the *general* downward trend in the real estate market, but rather that the company failed to disclose “the manner in which that then-known trend” might reasonably be expected to materially *impact* their future revenues as required by Item 303.¹⁶⁴

Item 303 distinguishes between “prospective information,” which must be disclosed, and “forward-looking information,” which need not be disclosed.¹⁶⁵ Though both prospective information and forward-looking information involve some level of prediction or projection, the distinction between the two rests in the nature of the prediction—voluntary, forward-looking information is less certain than prospective information.¹⁶⁶ Prospective information involves information based on *known* trends and events that are *reasonably expected* to have material effects on the company’s business, financial position, or results of operations.¹⁶⁷ Forward-looking information, in contrast, involves the mere *anticipation* of a future trend or a *less predictable* impact of a known event, trend, or uncertainty.¹⁶⁸

The SEC identified a two-part test to determine whether information is prospective, thus triggering Item 303 disclosure. Where a trend, demand, commitment, event or uncertainty is known, management must make two assessments:

1. Is the known trend, demand, commitment, event or uncertainty likely to come to fruition? If management determines that it is not reasonably likely to occur, no disclosure is required.
2. If management cannot make that determination, it must evaluate objectively the consequences of the known trend, demand, commitment, event or uncertainty, on the assumption that it will come to fruition. Disclosure is then required unless management determines that a material effect on the registrant’s financial condition or results of operations is not reasonably likely to occur.¹⁶⁹

Both determinations under the test must be “objectively reasonable, viewed as of the time the

163 *Litwin v. Blackstone Group, L.P.*, 634 F.3d 706 (2d Cir. 2011).

164 COX ET AL., *supra* note 1, at 583 (citing *Litwin*, F.3d 706, at 719).

165 Management’s Discussion and Analysis of Financial Condition and Results of Operations; Certain Investment Company Disclosures, Securities Act Release No. 6835, Exchange Act Release No. 26,831, Investment Company Act Release No. 16,961, 54 Fed. Reg. 22,427 (May 24, 1989) (to be codified at 17 C.F.R. pts. 211, 231, 241 and 271), *available at* <https://www.sec.gov/rules/interp/33-6835.html>.

166 *Id.*

167 Davis Polk & Wardell, *supra* note 138, at 15.

168 Management’s Discussion and Analysis of Financial Condition and Results of Operations, *supra* note 165.

169 *Id.*; see also Keith Higgins et al., *The SEC and Improving Sustainability Reporting*, 29 J. APPLIED CORP. FIN. 22, 28 (2017), <https://doi.org/10.1111/jacf.12230> [hereinafter *SEC and Improving Sustainability*] (“[Under MD&A disclosure], companies must ask whether known trends or uncertainties are reasonably likely to continue. If the answer is yes, they then have to assess whether that trend is likely to have a material impact on the company’s financial results. So, if something has only a remote chance of occurring, you don’t have to disclose. But if it’s reasonably likely, then you are required to disclose.”).

determination is made.”¹⁷⁰ It follows that, to bring a successful claim of failure to disclose under Item 303, a complaint must allege three things: first, that a firm was aware of a trend, demand, commitment, event, or uncertainty; second, that the known factor was “reasonably likely to have material effects on the registrant’s financial condition or results of operation;” and third, that the firm failed to disclose the known factor.¹⁷¹

When determining what risks to disclose under MD&A, “materiality remains, as always, the primary consideration” for firms.¹⁷² Management was intentionally given flexibility to decide what constitutes a material trend or uncertainty.¹⁷³

Registrants drafting MD&A disclosure should focus on information that provides an understanding of their financial condition, liquidity and capital resources, and changes in financial condition and results of operations.¹⁷⁴ The subjective nature of MD&A disclosure, and the inherent difficulty of identifying “uncertainties,” presents particular challenges for registrants preparing MD&A disclosure.¹⁷⁵ This is especially true in the context of climate change, where there is no unified consensus on its impacts, no established and consistent metrics to measure its effects, and where environmental regulation is ever-evolving and subject to political shifts. Climate change risk involves the interplay of many factors that in isolation may not be material. It follows that companies that are seemingly far removed from the direct impacts of climate change may reasonably remain silent on the issue.¹⁷⁶ Further complicating MD&A disclosure, the SEC has not “quantified, in Item 303 or otherwise, a specific future time period that must be considered in assessing the impact of a known trend, event or uncertainty that is reasonably likely to occur.”¹⁷⁷

As an example, underground coal mines require a large quantity of water to reduce explosion hazards, cool cutting surfaces, maintain equipment, prevent dust fires, and transport waste.¹⁷⁸ Item 303 would require disclosure from a coal mine operator located in an area where water levels are falling, if the levels will likely continue to drop—unless management determines that the inability to access natural water will not have a negative effect on the firm’s financial condition or results of operations.

170 Management’s Discussion and Analysis of Financial Condition and Results of Operations, *supra* note 165.

171 See *Silverstrand Investments v. AMAG Pharm., Inc.*, 707 F.3d 95, 103 (1st Cir. 2013) (discussing the requirements for bringing a claim of failure to disclose under Item 303 in the context of an offering).

172 FAST Act Modernization and Simplification of Regulation S-K, *supra* note 148, at 12,697.

173 Hart, *Glacial Pace*, *supra* note 94, at 3.

174 Commission Guidance, *supra* note 23, at 6294.

175 *Id.* at 6295.

176 Morreale, *supra* 123, at 212.

177 Commission Guidance, *supra* note 23, at 6294.

178 See Cheryl A. Dieter et al., ESTIMATED USE OF WATER IN THE UNITED STATES IN 2015, U.S. GEOLOGICAL SURVEY CIRCULAR 1441, at 29 (2018), <https://doi.org/10.3133/cir1441> (noting that in 2015, the U.S. mining industry withdrew an estimated 4,000 million gallons of water daily).



2.2 Challenges with Climate Change Disclosure

Some of the difficulties of evaluating climate change disclosure under the current SEC framework were exemplified in *People of the State of NY v. Exxon* (N.Y. Sup. Ct. 2019). There, the New York Attorney General claimed that Exxon had engaged in a fraudulent scheme to create the illusion “that it had fully considered the risks of climate change regulation and had factored those risks into its business operations,” when in reality it knowingly made representations that were “not supported by the facts and were contrary to its internal practices.”¹⁷⁹ The State alleged that Exxon was “keeping two sets of books in regard to climate change: one presented to the public that accounted for the potential future costs and another internal set in which those costs were disregarded.”¹⁸⁰

Exxon published reports that included the company’s general “proxy cost of carbon” assumption and “GHG cost assumptions,” which predicted future costs of carbon consumption and emissions. Exxon indicated that it incorporated these proxy costs into its assessment of future energy demand—the proxy cost was therefore embedded in the price bases that were used to evaluate new investment opportunities.¹⁸¹ But Exxon also circulated an internal, non-public document to its business units, providing economic models for evaluating future projects.¹⁸² The internal documents encouraged business units to substitute the general proxy cost of carbon and GHG cost estimates for more accurate local specifics where they could be ascertained, and defer to local legislation and specific regulatory environments.¹⁸³ The court found that there was no misrepresentation when the estimates in Exxon’s public documents did not align with the estimates used in its internal assessment models.

Though Exxon’s internal calculations differed in some instances from the public numbers,¹⁸⁴ the court found that no investor would attach any “material significance to the fact that ExxonMobil *internally* determines

179 *People v. Exxon Mobil Corp.*, 65 Misc.3d 1233(A), 2019 WL 6795771, at *1 (N.Y. Cty. Sup. Ct. 2019).

180 John Schwartz, *New York Loses Climate Change Fraud Case Against Exxon Mobil*, N.Y. Times (Dec. 10, 2019), <https://www.nytimes.com/2019/12/10/climate/exxon-climate-lawsuit-new-york.html>.

181 *Exxon*, 2019 WL 6795771, at *12.

182 *Id.* at *15.

183 *Id.* at *14.

184 In some cases, where Exxon told investors it was projecting the impact of future regulations by using a “proxy cost” of up to \$80 per ton of carbon emissions in wealthy countries by 2040, it was actually using figures as low as \$40 per ton or none at all. See Thomson Reuters, *Exxon Mobil prevails in New York climate change lawsuit*, CBC: Bus. (Dec. 10, 2019, 11:37am), <https://www.cbc.ca/news/business/exxon-mobil-prevails-climate-change-lawsuit-1.5390682>.

when it *is appropriate* to apply” differing GHG costs with respect to specific projects.¹⁸⁵ Importantly, the court found that “no reasonable investor during the period from 2013 to 2016 would make investment decisions based on speculative assumptions of costs that may be incurred 20+ or 30+ years in the future with respect to unidentified future projects.”¹⁸⁶ The court relied on *Singh v. Cigna Corp.*, where the Second Circuit found that a reasonable investor would not rely on “tentative and generic” disclosures that emphasize a “complex, evolving regulatory environment” faced by the corporation.¹⁸⁷ This standard will likely make it difficult to evaluate climate change disclosure absent a common metric to measure the impacts of climate change and absent a robust disclosure framework.



185 *Exxon*, 2019 WL 6795771, at *20 (emphasis in original).

186 *Id.*

187 *Singh v. Cigna Corp.*, 918 F.3d 57, 64 (2d Cir. 2019).



2.3 Existing Disclosure Standards in Practice

Despite the SEC’s 2010 report indicating that firms should disclose climate change risks within the existing disclosure framework, companies are generally “taking a minimally compliant approach to sustainability disclosure.”¹⁸⁸ An analysis of disclosure practices finds that sustainability disclosure is generally insufficient, uninformative, and imprecise.¹⁸⁹

Recognizing the concerns surrounding climate change disclosure, the G20 Finance Ministers and Central Bank Governors requested that the Financial Stability Board (“FSB”) “convene public- and private-sector participants to review how the financial sector can take account of climate-related issues.”¹⁹⁰ To help identify the information needed to appropriately assess and price climate-related risks and opportunities, in 2015 the FSB created the global, industry-led Task Force on Climate-related Financial Disclosures (“TCFD”).¹⁹¹ The TCFD reviewed disclosure reports for over 1,100 companies from 142 countries over a three-year period.¹⁹² Similarly, the SASB frequently analyzes existing sustainability disclosure practices by reviewing Form 10-K or 20-F filings for up to the top 10 companies in 79 industries.¹⁹³

The TCFD found that, overall, “not enough companies are disclosing decision-useful climate-related financial information.”¹⁹⁴ Though firms have been consistently engaged in voluntary disclosure, there has been growing “stakeholder demand for more consistent, granular, and comprehensive disclosure of information relevant to ESG factors.”¹⁹⁵ An analysis of SEC 10-K filings from 1995–2008 showed “an alarming pattern of non-disclosure by corporations regarding climate change risks,” as a “large majority of S&P 500 companies neglected to even mention climate risk.”¹⁹⁶ Though disclosure practices have

188 STATE OF DISCLOSURE 2016, *supra* note 39, at 2.

189 Ilhan et al., *supra* note 17, at 4.

190 2019 STATUS REPORT, *supra* note 20, at 54.

191 *Id.*

192 Press Release, Financial Stability Board, TCFD Report Finds Encouraging Progress on Climate-related Financial Disclosure, But Also Need for Further Progress to Consider Financial Risks 1 (June 5, 2017), <https://www.fsb.org/wp-content/uploads/R050619.pdf>.

193 See STATE OF DISCLOSURE 2017, *supra* note 11, at 2.

194 2019 STATUS REPORT, *supra* note 20, at iv.

195 Sonja Gibbs et. al., *Building a Global ESG Disclosure Framework: A Path Forward*, Inst. of Int’l Fin., 1 (June 2020), <https://www.iif.com/Publications/ID/3945/Building-a-Global-ESG-Disclosure-Framework-A-Path-Forward>.

196 See Kevin L. Doran & Elias L. Quinn, *supra* note 61, at 764.

improved since 2008, the SASB found that the most common form of disclosure in fiscal years 2015 and 2016 across the majority of industries and topics consisted of vague and “generic boilerplate language.”¹⁹⁷ Of the 713 disclosure reports analyzed for FY 2015, “around 19 percent of all possible disclosure entries analyzed contain metrics.”¹⁹⁸ By contrast, 43 percent of all entries analyzed used only boilerplate language.¹⁹⁹ The conclusion of the SASB’s 2017 report, which reviewed 731 disclosure reports from FY 2016, was that “boilerplate language is the most prevalent form of sustainability disclosure” across all industries.²⁰⁰ Even when companies do “view climate-related risk as material and use scenario analysis to assess the resilience of their strategies,” the TCFD found that there is still insufficient decision-useful disclosure of “information on the resilience of their strategies.”²⁰¹

The SASB reports explain that the disclosure of “metrics” requires the use of “quantitative performance indicators,” which must be explained in the context of the specific issuer.²⁰² Boilerplate disclosure, on the other hand, involves the use of “generic language that can be applicable to most, if not all, issuers in the industry.”²⁰³ Boilerplate disclosure is not sufficient to “reflect the company’s specific and unique circumstances,” and does not provide investors with useful information to differentiate between the issuer and its peers.²⁰⁴

On the topic of water management in the food and beverage industry, boilerplate language was used by *Dr. Pepper Snapple Group, Inc.* in their Form 10-K.²⁰⁵ Their disclosure indicated that: “weather, climate change legislation and the availability of water could adversely affect [their] business,” that the company “may be faced with water availability risks,” and that climate change “may cause water scarcity and a deterioration of water quality” in areas where the company maintains operations.²⁰⁶ On the topic of environmental risk disclosure in the financial sector, *Prudential Financial, Inc.* used boilerplate language in its Form 10-K when it indicated that “climate change may increase the frequency and severity of weather-related disasters and pandemics,” and that the “occurrence of natural disasters, including hurricanes, floods, earthquakes, tsunamis, tornadoes” could adversely affect their operations.²⁰⁷ Finally, *Morgan Stanley* used boilerplate language when it disclosed that their engagement with “commodities, including metals, natural gas, electric power, emission credits, and other commodity products” subjects them to “extensive energy, commodities, environmental, health and safety and other governmental laws and regulations” and exposes them to “regulatory, physical and certain indirect risks associated with climate change.”²⁰⁸

197 STATE OF DISCLOSURE 2017, *supra* note 11, at 2.

198 STATE OF DISCLOSURE 2016, *supra* note 39, at 11.

199 *Id.*

200 STATE OF DISCLOSURE 2017, *supra* note 11, at 14.

201 2019 STATUS REPORT, *supra* note 20, at iv.

202 STATE OF DISCLOSURE 2017, *supra* note 11, at 7.

203 *Id.*

204 *Id.*

205 *Id.* at 31.

206 *Id.*

207 *Id.* at 39.

208 *Id.* at 40.

In contrast, mining operator *Vale SA* disclosed that, in 2016, they withdrew a total of 426.3 million cubic meters of water, and used 394.3 million cubic meters of water in their operations.²⁰⁹ *Vale* also noted that “from the total volume of water used in 2016, 80% or 1.6 billion cubic meters was reused,” and disclosed their investments aimed at establishing more efficient water-use practices.²¹⁰ On the topic of environmental disasters, *American International Group, Inc* used metrics when it disclosed their “Probably Maximum Loss” models and their “Occurrence Exceedance Probability (OEP) losses, which reflect losses that may occur in any single event due to the defined peril.”²¹¹ The firm provided a table representing an overview of OEP modeled losses for top perils and countries, which includes their total exposures, including damage costs and re-insurance costs, based on the weighted probability of certain disasters occurring.²¹²

On the topic of integrating, ESG Risk Factors in Advisory, Underwriting, and Brokerage Activities, *HSBC Holdings PLC* used company-tailored metrics when it disclosed that it “completed a number of client transactions that help lower carbon dioxide emissions in areas including infrastructure and renewable energy,” coordinated financing for a “\$1bn 30-year green bond issuance,” which was the first emerging market green bond to receive a Green Bond Assessment grade from Moody’s, and was the “third-ranked bookrunner for green, social and sustainability bonds.”²¹³

As these examples illustrate, even when companies do use decision-useful metrics in their disclosure, there are a “wide variety of approaches to presenting material sustainability information.”²¹⁴ Without a standardized accounting format, “it remains virtually impossible” for both investors and company management to “benchmark a firm’s performance against that of its peers,” even when firms thoroughly measure, manage, and report on their material sustainability risks.²¹⁵

209 *Id.* at 9.

210 *Id.*

211 *Id.* at 39.

212 STATE OF DISCLOSURE 2017, *supra* note 11, at 40.

213 *Id.* at 41.

214 STATE OF DISCLOSURE 2016, *supra* note 39, at 4.

215 *Id.* at 5.



PART 3

The Future of Climate Disclosure



CLIMATE RISK
DISCLOSURE LAB

3.1 The Proliferation of Voluntary Standards

Multiple organizations have developed frameworks to help companies disclose climate-related information in annual reports. The TCFD and the SASB have developed complementary recommendations and standards aimed at helping organizations meet existing disclosure obligations more effectively. These organizations have the ultimate goal of proliferating standards that will lead to more “quantitative financial disclosures, particularly disclosure of metrics, about the financial impact that climate-related risks have or could have on an organization.”²¹⁶ Further, CDP provides a platform that assists investors in requesting, and companies in disclosing, environmental information.²¹⁷

The TCFD developed four widely adopted recommendations on climate-related financial disclosures. First, the TCFD recommends disclosure on “governance.”²¹⁸ Firms should describe board oversight of climate-related risks and opportunities, as well as management’s role in assessing and managing those risks and opportunities.²¹⁹ Second, firms should engage in “strategy” disclosure.²²⁰ This involves disclosing “actual and potential impacts of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning where such information is material.”²²¹ Third, firms should disclose “Risk Management,” by informing investors of the processes by which the organization identifies, assesses, and manages climate-related risks.²²² Firms should also describe how these processes are integrated into the organization’s overall risk management.²²³ Fourth, firms should disclose the “Metrics and Targets” used to assess and manage relevant climate-related risks and opportunities where such information is material.²²⁴ Firms should disclose their GHG emissions as well as the targets used to manage risks and opportunities, and their performance against those targets.²²⁵

216 TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD), RECOMMENDATIONS OF THE TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES 14 (Dec. 14, 2016), https://www.fsb-tcf.org/wp-content/uploads/2016/12/16_1221_TCFD_Report_Letter.pdf. [hereinafter TCFD Recommendations].

217 *Home Page*, CDP <https://www.cdp.net/en> (last visited Aug. 3, 2020).

218 *See* TCFD Recommendations, *supra* note 216, at 16.

219 *Id.*

220 *Id.*

221 *See id.*

222 *Id.*

223 *Id.*

224 *Id.*

225 *Id.*

The SASB has also developed industry-specific standards that help companies disclose material sustainability information consistently and comparably.²²⁶ The TCFD framework and SASB standards are meant to be complementary.²²⁷ The TCFD established high-level principles, guidance, and recommendations for disclosing climate-related risk.²²⁸ However, the TCFD did not develop any detailed, industry-specific standards or metrics for disclosing these risks.²²⁹ Instead, the TCFD explicitly references *existing* standards which companies can use to identify the climate-related risks and metrics most relevant to their industry, with the SASB standards “among the most frequently cited such tools in TCFD’s Implementation Annex.”²³⁰ By assisting firms in consistently identifying and communicating industry-specific climate-related risks, the SASB standards are used by companies as a tool to implement the TCFD’s recommendations.²³¹ SASB standards focus on helping firms identify the “subset of sustainability issues that are reasonably likely to be material to investors,”²³² and thus need to be included in financial disclosures.

Currently, 785 companies and other organizations are committed to implementing the TCFD recommendations, and 36 central banks and supervisors encourage TCFD reporting.²³³ Financial firms responsible for over \$86 trillion in assets are committed to following the TCFD recommendations.²³⁴ As of 2020, TCFD reporting of climate risks is mandatory for all signatories to the *Principles for Responsible Investment*, a United Nations-supported network of institutional investors consisting of over 1,750 signatories from over 50 countries representing approximately US\$70 trillion in AUM.²³⁵ And 477 investors with over \$34 trillion in AUM have written to the G20 to push the group to consider implementing the TCFD recommendations in their national disclosure rules.²³⁶

Another tool for climate disclosure is CDP, which provides a platform through which customers and investors can request companies to disclose their environmental risks and opportunities.²³⁷ In 2019, over

226 TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD), FREQUENTLY ASKED QUESTIONS: UNDERSTANDING HOW SASB STANDARDS AND TCFD RECOMMENDATIONS ARE COMPLEMENTARY 4 (Nov. 29, 2017), <https://www.fsb-tcdf.org/wp-content/uploads/2017/12/SASB-SASB-Standards-TCFD-Recommendations-FAQ-14-Dec-2017.pdf>.

227 *See generally id.*

228 *Id.* at 2.

229 *Id.*

230 *Id.*

231 *Id.* at 1.

232 Tim Mohin & Jean Rogers, *How to Approach Corporate Sustainability Reporting in 2017*, GREENBIZ.COM, (March 16, 2017), <https://www.greenbiz.com/article/how-approach-corporate-sustainability-reporting-2017>.

233 2019 STATUS REPORT, *supra* note 20, at vi.

234 Bloomberg Professional Services, *Deciphering the Task Force on Climate-related Financial Disclosures (TCFD)*, BLOOMBERG (May 2, 2018), <https://www.bloomberg.com/professional/blog/deciphering-task-force-climate-related-financial-disclosures-tcdf/>.

235 *TCFD-Based Reporting To Become Mandatory For PRI Signatories in 2020*, PRINCIPLES FOR RESPONSIBLE INVESTMENT, (Feb. 18, 2020) <https://www.unpri.org/news-and-press/tcdf-based-reporting-to-become-mandatory-for-pri-signatories-in-2020/4116.article>.

236 CDP, CDP TECHNICAL NOTE ON THE TCFD: DISCLOSING IN LINE WITH THE TCFD’S RECOMMENDATIONS IN 2020 5 (May 1, 2020), https://b8f65cb373b1b7b15feb-c70d8ead6ced550b4d987d7c03fcdd1d.ssl.cf3.rackcdn.com/cms/guidance_docs/pdfs/000/001/429/original/CDP-TCFD-technical-note.pdf?1512736184 [hereinafter CDP Technical Note].

237 *Home Page*, CDP, <https://www.cdp.net/en> (last visited Aug. 3, 2020).

8,400 companies, representing more than 50% of global market capitalization, disclosed environmental data through CDP.²³⁸ CDP is also complementary to the TCFD framework, as its disclosure questionnaire is aligned with the TCFD’s recommendations.²³⁹



238 *Companies*, CDP, <https://www.cdp.net/en/companies> (last visited Aug. 3, 2020).

239 See CDP TECHNICAL NOTE, *supra* note 236, at 22 (“CDP has further aligned its questionnaires with the TCFD’s recommendations, most notably through the development of new sector-specific questions and guidance for the capital goods, construction, financial services and real estate sectors for the 2020 reporting cycle.”).

3.2 International Best Practices

The SASB found that, in general, foreign issuers produce higher-quality disclosure than domestic issuers.²⁴⁰ The difference in quality may be due to European regulations that aim to “increase transparency and performance on sustainability matters.”²⁴¹ Standardized disclosure frameworks for climate change risks and sustainability practices are emerging at the domestic level in some European countries. There is also an evolving trend abroad for the recognition of climate change as a systemic risk and for the integration of climate risks into financial market supervision.

One example of the move toward mandatory sustainability disclosure is the 2014 European Union Directive on the Disclosure of Non-Financial and Diversity Information (“EU Directive”). The EU Directive has required certain companies operating in the EU to disclose sustainability information since 2018.²⁴² The EU Directive acknowledges that material climate-related risks may stem from the issuer’s own activities, but may also be linked to its operations, products, services, business relationships, and supply and subcontracting chains.²⁴³ Specifically, the EU Directive mandates that certain companies prepare a non-financial statement containing information relating to environmental matters. These statements should include details of the current and foreseeable impacts of the issuer’s operations on the environment, as well as the issuer’s use of renewable and/or non-renewable energy, greenhouse gas emissions, water use and air pollution.²⁴⁴ It is important to note that the EU Directive is stakeholder-oriented rather than shareholder oriented, as it calls for issuers to consider the needs “of all relevant stakeholders” when disclosing sustainability information.²⁴⁵ Further, its categorization of environmental issues as “non-financial” will not integrate climate-related information into thorough and decision-useful financial reports, which may lead to an increase in the quantity of sustainability reporting rather than the

240 STATE OF DISCLOSURE 2017, *supra* note 11, at 3.

241 *Id.* at 23.

242 Directive 2014/95/EU of the European Parliament and of the Council of 22 Oct. 2014 Amending Directive 2013/34/EU as Regards Disclosure of Non-Financial and Diversity Information by Certain Large Undertakings and Groups, art. 1, 2014 O.J. (L 330).

243 *Communication From The Commission – Guidelines on Non-Financial Reporting (Methodology for Reporting Non-Financial Information)*, 2017 O.J. (C 215), 1, 4.

244 *Id.* at 14.

245 Fisch, *supra* note 63, at 943 (quoting *Communication From The Commission – Guidelines on Non-Financial Reporting (Methodology for Reporting Non-Financial Information)*, 2017 O.J. (C 215), 1, at 4).

quality thereof.²⁴⁶

In 2006, the U.K introduced the “Companies Act,” which compels all listed companies to follow a “mandatory and prescriptive climate disclosure regime.”²⁴⁷ The legislation requires firms to report the annual quantity of CO2 emissions resulting from activities for which a company is responsible, including direct emissions from owned or controlled sources and indirect emissions from the generation of purchased energy.²⁴⁸ Firms must also report an expression of the company’s total annual emissions in relation to a quantifiable factor associated with the company’s activities. The Companies Act thus requires U.K. firms to “report both absolute (quantity) and relative emissions (intensity),”²⁴⁹ as well as the methodologies used in their calculations.²⁵⁰ Similarly, since 2016, France has required all institutional investors to “report the carbon footprints of their investment portfolios.”²⁵¹ Article 173 of the French Law on Energy Transition and Green Growth requires asset management companies and investors to report on how they account for ESG criteria, specifically requiring a discussion of climate risks in their investment policies.²⁵² The Article encourages a “two-step” disclosure, calling for an assessment of the impact of the investment on ESG-Climate factors, and the impact of ESG-Climate factors on the investment.²⁵³

246 Constance Z. Wagner, *Evolving Norms of Corporate Social Responsibility: Lessons Learned from the European Union Directive on Non-Financial Reporting Transactions*, 19 TENN. J. BUS. L. 619, 624 (2018).

247 Ilhan et al., *supra* note 17, at 17; *see also id.*, at 7 (noting that mandatory GHG reporting in the U.K. has likely led to strong reductions in carbon emissions for U.K. firms).

248 Philipp Krüger, *Climate Change and Firm Valuation: Evidence from a Quasi-Natural Experiment*, Swiss Fin. Inst. Research Paper Series No. 15–40, 13 (Feb. 15, 2015).

249 *Id.*

250 *Id.* at 10.

251 Ilhan et al., *supra* note 17, at 2.

252 Susanna Rust, *ESG: France’s Article 173: Taking Stock*, IPE INT’L PUBLISHERS LTD. (Jan. 2019), <https://www.ipe.com/esg-frances-article-173-taking-stock/10028810.article>.

253 FORUM POUR L’INVESTISSEMENT RESPONSABLE, ARTICLE 173-VI: UNDERSTANDING THE FRENCH REGULATION ON INVESTOR CLIMATE REPORTING, FIR Handbook No. 1, at 25 (Oct. 2016), https://www.frenchsif.org/isr-esg/wp-content/uploads/Understanding_article173-French_SIF_Handbook.pdf.

3.3 Climate Disclosure in the Financial Industry

Financial institutions in particular are facing increased stakeholder pressure to quantify and disclose climate-related risks, and to incorporate climate information into their business practices. Not only are financial institutions exposed to the physical and transition risks of climate change, they also play a large role in “exacerbating those risks by continuing to provide substantial financing to activities that intensify climate change.”²⁵⁴ The six largest Wall Street Banks, who committed more than \$700 billion toward fossil fuel financing from 2016 to 2018,²⁵⁵ are especially vulnerable to climate change “through their roles as major providers of capital to the industries that are driving climate change in the form of lending, underwriting, investing, or some combination thereof.”²⁵⁶

There is a growing consensus that climate change presents a systemic risk to the financial industry.²⁵⁷ Because the financial industry is deeply interconnected, climate risks, which are not isolated to a specific sector or market, can “trigger spillover risks and feedback loops, creating contagion across various portfolios and asset classes simultaneously.”²⁵⁸ Large financial institutions in the U.S. have begun to incorporate climate change into their business practices, and multiple disclosure methodologies have been developed to guide banks, insurance companies, and other financial intermediaries in measuring and disclosing climate risks. Importantly, enhanced disclosure practices in the financial services sector will drive disclosure practices in other sectors. As financial institutions increasingly incorporate climate-related information in their capital allocation processes, companies that are not publicly traded (or otherwise not subject to SEC requirements) will be forced to enhance their disclosure practices or else risk losing access to bank financing.

The Partnership for Carbon Accounting Standards (“PCAF”), an industry-led organization consisting

254 Gregg Gelzinis & Graham Steele, *Climate Change Threatens the Stability of the Financial System*, CTR. FOR AM. PROGRESS (Nov. 21, 2019, 12:01am), <https://www.americanprogress.org/issues/economy/reports/2019/11/21/477190/climate-change-threatens-stability-financial>.

255 *Id.*

256 Graham Steele, *Confronting the ‘Climate Lehman Moment’: The Case for Macroprudential Climate Regulation*, CORNELL J. OF L. & PUB. POLICY, 6 (forthcoming), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3542840.

257 *Id.* at 12.

258 *Id.* at 17.

of over 50 global financial institutions representing nearly \$3 trillion in assets,²⁵⁹ acknowledges that financial institutions have a “critical role to play in the world’s effort to limit global warming and fulfill the obligations of the Paris Agreement.”²⁶⁰ The PCAF, whose U.S. members include Bank of America, Citibank, and Morgan Stanley,²⁶¹ released a consultative draft of a “Global Carbon Accounting Standard” for the financial industry.²⁶² The Standard aims to provide detailed guidance for six asset classes (listed equity and bonds; mortgages; business loans; motor vehicle loans; project finance; and commercial real estate) to “calculate the emissions resulting from activities in the real economy that are financed through lending and investment portfolios.”²⁶³ As financial institutions currently use different approaches and accounting methodologies to measure financed emissions, there is an inconsistent and “inaccurate assessment of the industry’s climate impact.” The PCAF responds to this growing concern by establishing a uniform and consistent reporting standard.²⁶⁴

The Network for Greening the Financial System (“NGFS”), which aims to “analyze the consequences of climate change for the financial system and to redirect global financial flows in order to enable low-carbon economic growth,” has highlighted the importance of the financial sector in achieving the objectives of the Paris Agreement.²⁶⁵ The NGFS issued six recommendations for “action chiefly aimed at central banks, supervisors and legislators” that would help achieve those objectives.²⁶⁶ The recommendations include steps that would help to achieve “robust and internationally consistent climate and environment-related disclosure.”²⁶⁷

Institutional investors in the U.S. are also putting direct pressure on financial regulators to “explicitly integrate climate change” into their mandates.²⁶⁸ However, U.S. regulators have yet to incorporate climate change into macroprudential regulation and have taken “few concrete actions to intervene and preempt a potential climate change-driven financial crisis.”²⁶⁹

259 Press Release, Partnership for Carbon Accounting Financials (PCAF), Global Launch for Carbon Accounting Financials (Sep. 23, 2017), <https://carbonaccountingfinancials.com/newsitem/global-launch-of-partnership-for-carbon-accounting-financials-pcaf>.

260 *Id.*

261 *Financial Institutions Taking Action*, PCAF, <https://carbonaccountingfinancials.com/financial-institutions-taking-action> (last visited Aug. 17, 2020).

262 See PCAF, THE GLOBAL CARBON ACCOUNTING STANDARD FOR THE FINANCIAL INDUSTRY: DRAFT VERSION FOR PUBLIC CONSULTATION (Aug. 3, 2020) available at <https://carbonaccountingfinancials.com/consultation-signup>.

263 *Id.* at 3.

264 *Id.* at 9.

265 Jonathan Herz, *The Financial Sector is Waking Up to Climate Change*, ENVTL. & ENERGY SOLS. (Feb. 11, 2020), <https://www.eesi.org/articles/view/the-financial-sector-is-waking-up-to-climate-change>.

266 *Network for Greening the Financial System*, DEUTSCHE BUNDESBANK, <https://www.bundesbank.de/en/bundesbank/green-finance/network-for-greening-the-financial-system-808978> (last visited Oct. 5, 2020).

267 *Id.*; see also A CALL FOR ACTION, *supra* note 7.

268 Letter from Ceres, *Sustainability is the Bottom Line*, CERES (July 21, 2020), https://www.ceres.org/sites/default/files/Federal_Regulators_Letter.pdf.

269 See Steele, *Confronting the ‘Climate Lehman Moment’*, *supra* note 256, at 3. It is notable that no U.S. federal regulatory agency is a member of the NGFS, a global forum now consisting of 69 central banks and 13 observers. Members include the reserve banks of Canada, Mexico, England, as well as peers from Europe, Russia, Asia, South America, and Africa. See Herz, *supra* note 265. Further, when describing the Federal Reserve’s role in managing the effects of climate change,

In July 2020, a large group of institutional investors representing nearly \$1 trillion in assets sent a letter to the Federal Reserve urging them to recognize climate change as a systemic risk to the financial system, noting that the consequences of climate change will destroy asset valuations and disrupt economic stability worldwide.²⁷⁰ And in August 2020, Representative Mike Levin (D-Calif.) and Senator Brian Schatz (D-Hawaii) sent a letter to Treasury Secretary Mnuchin, urging him to respond to the serious threat climate change poses to financial markets.²⁷¹ The letter calls on Secretary Mnuchin to use his statutory responsibility as Chair of the Financial Stability Oversight Council (“FSOC”) to “respond to emerging threats to the stability of the United States Financial System,” noting that the FSOC’s failure to address climate-related risks has left the “the financial system and economy vulnerable” to a severe crisis.²⁷²



Chairman Jerome Powell stated that the principle responsibility and leadership in that area lies with the “many other agencies of the federal government,” declaring that the overall American response has to “come from elected officials, and not the Fed.” Jacob Greber, ‘That’s not us’: Fed Won’t Tackle Climate Change, *THE AUSTRALIAN FIN. REV.* (Jan. 30, 2020, 9:46am), <https://www.afr.com/world/north-america/that-s-not-us-says-fed-chief-powell-on-tackling-climate-change-20200130-p53w0i>.

270 Letter from Ceres, *Sustainability is the Bottom Line* (July 21, 2020), <https://www.ceres.org/sites/default/files/FederalRegulatorsLetter.pdf>.

271 Letter from Levin et. al., *Letter to Mnuchin on Climate Risk* (Aug. 19, 2020), available at <https://mikelevin.house.gov/sites/mikelevin.house.gov/files/Letter%20to%20Mnuchin%20on%20Climate%20Risk%20%282%29.pdf>.

272 *Id.*



3.4 The Forces Fueling Improved Disclosure Practices

A. Market-based Solutions

Market-based solutions to climate-related disclosure have been the most powerful force in improving disclosure standards. KPMG has found that the most significant factor in driving corporate responsibility disclosure has been increased investor and shareholder interest in sustainability.²⁷³ Further, increasing rating agency focus on climate-related risk exposure may cause a voluntary increase in transparent ESG disclosure. Corporate whistleblower programs can also be very helpful in addressing insufficient climate-related disclosures.

In 2017, Vanguard called on public companies to “embrace the disclosure of sustainability risks that bear on a company’s long-term value creation prospects” using a suitable framework like the SASB standards.²⁷⁴ And BlackRock’s Larry Fink stated that the firm will “hold board members accountable” when companies are not “producing effective sustainability disclosures,”²⁷⁵ and urged companies to “build the foundations for disclosure consistent” with the SASB and the TCFD.²⁷⁶

As large asset owners and asset managers “sit at the top of the investment chain,” they have a crucial role to play in pressuring firms to provide more efficient climate-related disclosure.²⁷⁷ Investors can continue to write letters, file shareholder suits, and engage in shareholder activism to influence disclosure policy.²⁷⁸ A recent shareholder proposal calling for Exxon to share more information about climate risks won the support of 62% of voting shareholders despite Exxon’s recommendation to vote against the proposal.²⁷⁹

273 KPMG, *THE ROAD AHEAD: THE KPMG SURVEY OF CORPORATE RESPONSIBILITY REPORTING 2017*, at 23 (Oct. 24, 2017), <https://assets.kpmg/content/dam/kpmg/xx/pdf/2017/10/kpmg-survey-of-corporate-responsibility-reporting-2017.pdf>.

274 Letter from F. William McNabb III, Chairman & CEO, Vanguard, *An Open Letter to Directors of Public Companies Worldwide* (Aug. 31, 2017), <https://www.vanguardcanada.ca/documents/literature/ceo-governance-letter.pdf>.

275 Fink, *Fundamental Reshaping*, *supra* note 18.

276 BLACKROCK, *New Standard for Investing*, *supra* note 42.

277 2017 RECOMMENDATIONS, *supra* note 25, at iii.

278 *People v. Exxon Mobil Corp.*, 65 Misc.3d 1233(A), 2019 WL 6795771, at *1 (N.Y. Cty. Sup. Ct. 2019) (explaining that Exxon began publishing thorough sustainability reports in response to shareholder pressure).

279 Bradley Olson, *Exxon Shareholders Pressure Company on Climate Risks*, WALL ST. J. (last updated May 31, 2017, 1:55pm), <https://www.wsj.com/articles/exxon-shareholders-pressure-company-on-climate-risks-1496250039>.

Similarly, Shell has backed a resolution requiring Shell to conduct climate-related stress tests and disclose its results.²⁸⁰ As climate change risks become more obvious to stakeholders,²⁸¹ the pressure to disclose will only increase.

In September 2020, the Business Roundtable, one of the most prominent business groups in the United States, issued a statement urging companies and policymakers to “adopt a more comprehensive, coordinated and market-based approach to reduce emissions.”²⁸² The Business Roundtable noted that companies should disclose climate-related material risks where appropriate.²⁸³ However, the group stated that disclosure standards should be “voluntary and industry supported,”²⁸⁴ despite the insufficiency of the current voluntary approach to climate-disclosure.

Rating agencies have also begun to put pressure on firms to address climate risks. Both Moody’s and Standard & Poor’s have stated that corporate, state, and municipal issuers risk facing credit downgrades if they fail to adequately assess and disclose climate risks.²⁸⁵ A 2015 report by Standard & Poor’s indicated that, while natural catastrophes did not play a major role in assessing corporate credit quality in the past, their effect may “increase considerably if, as scientific evidence suggests, we experience more frequent and extreme climatic events.”²⁸⁶ Further, the report noted that disclosure relating to a company’s exposure to natural catastrophes was likely to become increasingly relevant to their rating analysis.²⁸⁷

In a 2017 report, Moody’s explained that the growing effects of climate change will lead to a “negative credit factor for issuers” who fail to implement sufficient adaptation and mitigation strategies.²⁸⁸ Since

280 Damian Carrington, *Shell Urges Shareholders to Accept Climate Resolution*, THE GUARDIAN: ENV’T. (Jan. 29, 2015, 11:26pm), <https://www.theguardian.com/environment/2015/jan/29/shell-urges-shareholders-to-accept-climate-change-resolution>.

281 See Ryan Heath, *U.N. Chief Says There’s a Bigger Threat Than Coronavirus*, POLITICO (last updated Apr. 21, 2020, 8:09pm), <https://www.politico.com/news/2020/04/21/an-even-deeper-emergency-united-nations-chief-warns-climate-change-a-bigger-threat-than-coronavirus-199646> (noting that U.N. Secretary-General António Guterres said that “the impact of the coronavirus is both immediate and dreadful,” but that the unfolding environmental crisis represents an even deeper emergency, and is approaching a point of no return).

282 Business Roundtable, *Addressing Climate Change: Principles and Policies*, at 1 (Sep. 2020), available at <https://s3.amazonaws.com/brt.org/Business-RoundtableAddressingClimateChangeReport.September2020.pdf>.

283 See *id.* at 3.

284 *Id.*

285 Richard Mahony & Diane Gargiulo, *The State of Climate Risk Disclosure: A Survey of US Companies*, DONNELLEY FIN. SOLS. 4 (Oct. 4, 2019), available at <https://www.dfinsolutions.com/insights/white-paper/state-climate-risk-disclosure-survey-us-companies>. For example, Moody’s downgraded Trinity Public Utilities District in California in 2019 due to the elevated risk from wildfires. See Kristoffer Tigue, *Climate Change Becomes an Issue for Ratings Agencies*, INSIDE CLIMATE NEWS (Aug. 5, 2019), <https://insideclimatenews.org/news/04082019/climate-change-ratings-agencies-financial-risk-citiescompanies#:~:text=It’s%20a%20signal%20that%20rating,impact%20in%20the%20financial%20markets.&text=Just%20the%20threat%20of%20a,starting%20to%20include%20clim>.

286 STANDARDS & POOR’S, CLIMATE CHANGE WILL LIKELY TEST THE RESILIENCE OF CORPORATES’ CREDITWORTHINESS TO NATURAL CATASTROPHES 2 (April 20, 2015), http://www.actuarialpost.co.uk/downloads/cat_1/SP_Climate%20Change%20Impact%20On%20Corporates_Apr212014.pdf.

287 *Id.*

288 Press Release, *Moody’s, Climate Change is Forecast to Heighten US Exposure to Economic Loss Placing Short- and Long-Term Credit Pressure on US States and Local Governments* (Nov. 28, 2017), https://www.moody’s.com/research/Moodys-Climate-change-is-forecast-to-heighten-US-exposure-to--PR_376056.

2017, Moody’s municipal credit analysts have assessed the impact of climate risks with states’ and municipalities’ preparedness and planning for those risks.²⁸⁹ Moody’s analysts also focus on an issuer’s current and future mitigation steps, and how those steps will impact the issuer’s overall profile, when assigning ratings for municipal issuers with higher exposure to climate risks.²⁹⁰

Firms, especially those with exposure in high-risk areas, will likely become more willing to engage in transparent, high-quality disclosure of climate-risk assessment and preparedness strategies in order to avoid credit downgrades. These companies would therefore *benefit* from a mandatory climate-related disclosure framework that clarifies the risks that must be disclosed and how they should be disclosed.

Additionally, given the lack of a mandatory and standardized climate-related risk disclosure regime, whistleblowers can play a large role in exposing fraudulent concealment of material information and in enhancing corporate incentives to enhance climate-related disclosure practices. The two primary federal laws regulating corporate governance and disclosure obligations, the Sarbanes-Oxley Act and the Dodd-Frank Act, both have whistleblower provisions.²⁹¹ As highlighted in a recent National Whistleblower Center report, whistleblowers are particularly needed to address problems with deception in the fossil fuel sector, a sector that perhaps has the most to lose by failing to prepare for a low-carbon future.²⁹² A successful partnership of whistleblowers, prosecutors, and regulators can expose climate-related accounting fraud. As noted by the SEC, “[w]histleblowers have proven to be a critical tool in the enforcement arsenal to combat fraud and protect investors.”²⁹³ Increased climate-disclosure whistleblower activity, as well as the threat of increased litigation, could put pressure on corporations to improve their disclosure practices.

B. Regulatory and Legal Solutions

The implementation of a top-down, legally binding, standardized and thorough framework for climate disclosure would likely be the most effective way to ensure comparable and informative climate-risk disclosure. The increasing risk of burdensome climate-related litigation may also pressure firms to engage in thorough disclosure practices.²⁹⁴ In addition, financial regulators are being pressured by investors to address climate change risks in the markets they regulate. Both the SEC and Congress have debated reforms to the disclosure system in light of the intensification of the climate crisis and the increasing need for disclosure of climate-related risks.

289 *Id.*

290 *Id.*

291 18 U.S.C. §1514A (2010); 15 U.S.C. § 78u-6 (2010).

292 See generally National Whistleblower Center, EXPOSING A TICKING TIME BOMB: HOW FOSSIL FUEL INDUSTRY FRAUD IS SETTING US UP FOR A FINANCIAL IMPLOSION — AND WHAT WHISTLEBLOWERS CAN DO ABOUT IT (July 2020), available at <https://www.whistleblowers.org/wp-content/uploads/2020/07/NWC-Climate-Risk-Disclosure-Report.pdf>.

293 Press Release, U.S. Sec. and Exch. Comm’n, SEC Awards Record Payout of Nearly \$50 Million to Whistleblower (June 4, 2020), available at <https://www.sec.gov/news/press-release/2020-126>.

294 Christopher M. Matthews, *Minnesota Sues Exxon, Koch Over Climate Change*, WALL ST. J. (last updated Jun. 24, 2020, 10:19pm), <https://www.wsj.com/articles/minnesota-sues-exxon-koch-over-climate-change-11593033319?mod=djemCFO>.

In May 2020, Ceres, a leading sustainability nonprofit organization, issued a call to action for U.S. financial regulators to address climate risks as systemic risks.²⁹⁵ They note that the Federal Reserve should “acknowledge that climate change poses risks to financial market stability and immediately begin assessing their impacts,” and should “integrate climate change into their prudential supervision.”²⁹⁶ Further, they suggest that the Office of the Comptroller of the Currency and the Federal Deposit Insurance Corporation “coordinate with each other and all banking regulators to ensure that climate change is integrated into the financial supervision process.”²⁹⁷ As for disclosure requirements, Ceres recommends that the SEC build on the framework established by the TCFD and “issue rules mandating corporate climate risk disclosure,”²⁹⁸ and should better “enforce the existing regulations and interpretive guidance on climate risk.”²⁹⁹ Finally, Ceres suggests that the SEC should analyze potential climate risk impacts on the securities markets and direct the Public Company Accounting Oversight Board (“PCAOB”) to “assess whether firm audits adequately detect climate risks, and issue guidance to help auditors better understand how climate risk affects audits and accounting.”³⁰⁰

There is indication that climate-related regulations will become more stringent in certain U.S. markets. In 2019, the Commodity Futures Trading Commission (“CFTC”) announced the establishment of the “Climate-Related Market Risk Subcommittee” of the CFTC’s Market Risk Advisory Committee.³⁰¹ The mandate of the Climate Subcommittee was, among other things, to identify the “challenges and impediments to evaluating and managing climate-related risks,” recommend potential improvements for integrating climate related scenario analyses and stress testing into disclosure reports, and identify policy initiatives and best practices for climate-related risk management and disclosure.³⁰² In September 2020, the Climate Subcommittee published a comprehensive report that identified and examined climate related financial and market risks.³⁰³ The Subcommittee highlighted that climate change poses a “major risk to the stability of the U.S. financial system and to its ability to sustain the American economy,” as climate change threatens to cause disorderly price adjustments in various asset classes and disrupt the “proper functioning of financial markets.”³⁰⁴ The report urges U.S. financial regulators to recognize “that climate change poses serious emerging risks to the U.S. financial system” and to “move urgently and decisively to measure, understand, and address these risks.”³⁰⁵ The report finds that the “quality of climate disclosure

295 See CERES, ADDRESSING CLIMATE AS A SYSTEMIC RISK: A CALL TO ACTION FOR U.S. FINANCIAL REGULATORS: EXECUTIVE SUMMARY (May 2020), <https://www.ceres.org/sites/default/files/2020-05/Financial%20Regulator%20Executive%20Summary%20FINAL.pdf>.

296 *Id.* at 8.

297 *Id.*

298 *Id.* at 9.

299 *Id.*

300 *Id.* at 10.

301 Press Release, Commodity Futures Trading Comm’n (CFTC), *CFTC Commissioner Behnam Announces Members of the Market Risk Advisory Committee’s New Climate-Related Market Risk Subcommittee*, CFTC Release No. 8079-19 (Nov. 14, 2019).

302 *Id.*

303 MANAGING CLIMATE RISK IN THE U.S. FINANCIAL SYSTEM: REPORT OF THE CLIMATE-RELATED MARKET RISK SUBCOMMITTEE, MARKET RISK ADVISORY COMMITTEE OF THE U.S. COMMODITY FUTURES TRADING COMMISSION (Sep. 2020), available at <https://www.cftc.gov/sites/default/files/2020-09/9-9-20%20Report%20of%20the%20Subcommittee%20on%20Climate-Related%20Market%20Risk%20-%20Managing%20Climate%20Risk%20in%20the%20U.S.%20Financial%20System%20for%20posting.pdf> [hereinafter Report of the Climate-Related Market Risk Subcommittee].

304 Report of the Climate-Related Market Risk Subcommittee, *supra* note 303, at i.

305 *Id.* at ii.

in the United States by issuers largely remains inadequate for the needs of investors,”³⁰⁶ and calls upon the SEC to review and update its 2010 guidance on climate risk disclosure.³⁰⁷

In 2016, the SEC issued a Concept Release in which the agency called for comments on the topic of climate related disclosure and discussed the possibility of mandating sustainability disclosure.³⁰⁸ In particular, the agency sought feedback on which sustainability disclosures are important to the understanding of a “registrant’s business and financial condition and whether there are other considerations that make these disclosures important to investment and voting decisions.”³⁰⁹ The SEC indicated that many investors believe that “the Commission’s current rules do not adequately address the risks associated with climate change,” and cited risks that many investors “believe are not adequately disclosed, such as stranded assets and regulatory risk.”³¹⁰ The SEC acknowledged that the role of sustainability information “in investors’ voting and investment decisions may be evolving as some investors are increasingly engaging on certain ESG matters.”³¹¹

At a 2016 symposium entitled *The SEC and Improving Sustainability Reporting*,³¹² the then Director of the SEC’s Division of Corporate Finance Keith Higgins said that the greatest number of comment letters received in response to the 2016 Concept Release “concerned ESG issues, and the vast majority of them asked for improvements in sustainability disclosure requirements.”³¹³ Director Higgins noted that “of all the ESG topics, climate change generated the most comments.”³¹⁴ Further, many of the commenters expressed frustration with the lack of a mandatory and standardized disclosure framework for climate risks, noting that voluntary climate disclosures are “inconsistent, difficult to find, and often not comparable and lacking in context.”³¹⁵ Mary Schapiro, the moderator of the 2016 symposium and former SEC chairwoman, remarked that the comments suggest “the market is asking for more sustainability information, particularly climate-related financial disclosure.”³¹⁶

In a January 2020 statement, SEC Commissioner Allison Herren Lee called on the agency to stop ignoring the “challenge of disclosure around climate change risk,” and to “begin the difficult process of confronting it.”³¹⁷ Commissioner Lee highlighted that investors are overwhelmingly expressing their need for “consistent, reliable, and comparable disclosures of the risks and opportunities related to sustainability measures, particularly climate risk.”³¹⁸ Further, following the amendments to Regulations S-K in August

306 *Id.* at 94.

307 *Id.* at 47.

308 *See generally* Business and Financial Disclosure Required by Regulation S-K, *supra* note 108.

309 *Id.* at 23,970.

310 *Id.* at 23,971.

311 Business and Financial Disclosure Required by Regulation S-K, *supra* note 108, at 23,972.

312 *SEC and Improving Sustainability Reporting*, *supra* note 169.

313 *Id.* at 23.

314 *Id.* at 24.

315 *Id.* at 25.

316 *Id.*

317 Lee, *Modernizing S-K*, *supra* note 21, at para. 11.

318 *Id.*

2020, both Commissioner Lee and Commissioner Caroline Crenshaw criticized the SEC for failing to address climate change. In a dissenting statement following the adoption of the rules, Commissioner Crenshaw urged the SEC to recognize that climate change is a material concern for investors, noting that the SEC’s failure to “address climate change risk continues to hamper the efficient sorting and comparison of modern companies.”³¹⁹ Similarly, Commissioner Lee criticized the SEC for staying silent on climate change despite the “unprecedented and massive campaign to obtain voluntary climate-related disclosures from companies.”³²⁰ Commissioner Lee again emphasized the threat that climate change poses to economic stability and highlighted the fact that investors are not receiving material climate-related information under current SEC disclosure requirements.³²¹

In July 2019, the “Climate Risk Disclosure Act of 2019” was introduced in the U.S. House of Representatives.³²² If passed, the legislation would direct the SEC to require an issuer to disclose material climate change-related information, including climate-related risks posed to the issuer, as well as the issuer’s strategies and actions to mitigate these risks. The bill would require issuers to include five climate-related disclosure topics in their annual disclosure reports. First, an issuer would be required to disclose information regarding the identification, evaluation, and risk management strategies related to (1) the physical risks posed to the covered issuer by climate change, and (2) the transition risks posed to the covered issuer by climate change.³²³ Second, an issuer would be required to disclose a description of any established corporate governance processes and structures to identify, assess, and manage climate-related risks.³²⁴ Third, an issuer would be required to disclose a description of specific actions that the covered issuer is taking to mitigate identified risks.³²⁵ Fourth, an issuer would be required to disclose a “discussion of the short-, medium-, and long-term resilience of any risk management strategy” taken to identify and mitigate climate-related risks.³²⁶ And fifth, an issuer would be required to disclose a description of how climate risk is incorporated into the overall risk management strategy of the covered issuer.³²⁷

Certain firms would also be required to disclose their GHG emissions according to a standardized framework,³²⁸ their cumulative ownership stakes in fossil fuel assets,³²⁹ their water consumption levels,³³⁰

319 Caroline Crenshaw, Comm’r, U.S. Sec. & Exch. Comm’n, “Statement on the ‘Modernization’ of Regulation S-K Items 101, 103, and 105” para. 5 (Aug. 26, 2020), <https://www.sec.gov/news/public-statement/crenshaw-statement-modernization-regulation-s-k>.

320 Allison Herren Lee, Comm’r, U.S. Sec. & Exch. Comm’n, “Regulation S-K and ESG Disclosures: An Unsustainable Silence” para. 16 (Aug. 26, 2020), <https://www.sec.gov/news/public-statement/lee-regulation-s-k-2020-08-26>

321 *Id.* at para. 15.

322 Climate Risk Disclosure Act of 2019, H.R. 3623, 116th Cong. (2019).

323 *Id.* at § (5)(a)(2).

324 *Id.* at § (5)(a)(2)(B).

325 Climate Risk Disclosure Act, *supra* note 322, at § (5)(a)(2)(c).

326 *Id.* at § (6)(a)(2)(A)(v).

327 *See id.* at § (6).

328 *Id.* at § 6(a)(1)(B)(2).

329 *Id.* at § 6(a)(2)(C)(ii)(I).

330 *Id.* at § 6(a)(2)(C)(ii)(V).

and their expected costs of carbon.³³¹ Firms would be required to disclose a “quantitative analysis” to support any qualitative statements, and disclosure would be made according to industry-specific metrics as described and established by the SEC. The bill would also direct the SEC to establish specialized disclosure rules for industries within specific sectors of the economy,³³² including the finance sector, insurance sector, transportation sector, electric power sector, mining sector, and non-renewable energy sector, as well as any other sector determined appropriate by the Commission in consultation with other relevant Federal agencies.³³³



331 *Id.* at § 6(a)(1)(D).

332 *Id.* at § 6(a)(1)(A).

333 These include the Administrator of the Environmental Protection Agency, the Secretary of Energy, the Administrator of the National Oceanic and Atmospheric Administration, the Director of the Office of Management and Budget, and the head of any other Federal agency determined appropriate by the Commission. *Id.* at §2(1).



Conclusion



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The absence of mandatory climate-related corporate disclosure regulations has led to a situation where public companies fail to consistently disclose decision-useful climate-related information. With the proliferation of voluntary standards, companies are free to use different metrics, choose their own scope, omit unfavorable information, and employ their own calculation methods when they choose to disclose climate-related risks. As a result, investors and markets do not have the information needed to accurately compare firms, engage in effective risk-management, and allocate capital confidently and efficiently. Further, unpriced climate-related risk exposes the financial sector to abrupt corrections which can adversely affect the stability of financial markets and in turn the broader economy.

The adoption of a mandatory and effective disclosure framework will ensure that companies identify, measure, report, and communicate climate-related risks in a consistent and decision-useful way. Companies that want to compete will develop effective mitigation strategies and identify emerging opportunities for the inevitable physical and market consequences of climate change. A mandatory disclosure regime will allow investors, credit rating agencies, and other stakeholders to assess and compare companies' long-term sustainability measures, leading to a more efficient allocation of capital. It will also assist financial regulators, legislators, and law enforcement in understanding the impacts of climate-related financial risk on investors and markets, and inform the adoption and enforcement of more effective public policy and regulation.

The impact of climate change will always be subject to uncertainty. But without a common, robust, and enforceable disclosure framework, investors will not have the information they need to adequately incorporate the effects of climate change, whatever they may be, into their decision-making processes, and companies will remain reliant on multiple voluntary standards, and their own judgment, to determine what exactly they should disclose.



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