Whatever the Political Climate May be, *Corporate* America Is Stepping Up to the Challenge of Climate Change

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The Paris Agreement on climate change has been hailed as a "major leap for mankind."[1] However, real progress under this landmark accord will require an immense effort to cut worldwide greenhouse gas ("GHG") emissions over the next few decades. This article first discusses whether the legal signals needed to achieve the deep emission reductions required to achieve the goals of the Paris Agreement are being put into place by the federal government. Because that question must be answered resoundingly in the negative, the article also addresses the practical and legal considerations that are leading U.S. business leaders to launch their own efforts to lower GHG emissions. As discussed herein, numerous major companies are pursuing such initiatives vigorously, and some have been doing so for decades. However, voluntary corporate actions will not come close to reducing emissions to the extent that good science advises is required to keep climate change in check. In light of the hard reality that the federal government is not likely to put into place the legal structures needed for sustainable, long-term carbon reduction any time soon, corporations must protect themselves by understanding and preparing for climate change risks. At the same time, they must advocate for government to put partisan politics aside and address the problem with the honesty and integrity it demands.

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[1] Emily Gosden, *Paris Climate Change Agreement A Major Leap for Mankind,* THE TELEGRAPH, Dec. 12, 2015, http://www.telegraph.co.uldnews/earth/paris-climate-change-conference/12047909/Paris-climate-change-agreement-a-major-leap-for-mankind.html.

Background

The drumbeat from the world's climate scientists has been incessant over the last several decades, alerting society to the fact that profound changes are occurring to our climate, and that without prompt action to reduce substantially the emission of GHGs from human activities such changes will result in significant long-term environmental and the socio-economic impacts.[2] Irrefutable evidence is confirming the accuracy of these warnings—in the form of prolonged droughts, associated agricultural production deficits and social unrest, extraordinary heat waves and storm events, wildfires, a worldwide retreat of glaciers and arctic ice cover, range shifts of plants, animals and insects, ocean acidification, and unmistakable sea level rise.[3]

The effects of climate change are predicted to ramp up sharply over the course of the century under a "business as usual scenario," with effects so profound as to undermine the social and economic foundations of modern society.[4] For example, credible reports predict that extended droughts and the inundation of low-lying coastal areas around the world will force "environmental refugees" to migrate in numbers that are unprecedented in human history.[5] A preview of the strain that such climate-induced migration would place on the social fabric of modern society is provided by the problems now wrenching Europe from the influx of a tiny fraction of the numbers of people requiring resettlement if climate change spins out of control.[6] It is for these reasons that the 2016 report of the World Economic Forum identifies the "failure of climate change mitigation and adaptation" to

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[2] CUBASCH, U., D. WUEBBLES, D. CHEN, M.C. FACCHINI, D. FRAME, N. MAHOWALD, AND J.-G. WINTHER, 2013: INTRODUCTION. IN: CLIMATE CHANGE 2013: THE PHYSICAL SCIENCE BASIS. CONTRIBUTION OF WORKING GROUP I TO THE FIFTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (Stocker, T.F., et al. eds.). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, *available at* http://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_ChapterOl_FINAL.pdf.

[3] *Id.;* IPCC, 2013: Summary for Policymakers. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

[4] U.S. GLOBAL CHANGE RESEARCH PROGRAM, CLIMATE CHANGE IMPACTS IN THE UNITED STATES: THE THIRD NATIONAL CLIMATE ASSESSMENT (Jerry M. Melillo, Terese Richmond, & Gary W. Yohe, eds., 2014).

[5] *See* http://www.unhcr.org/en-us/climate-change-and-disasters.html. *See also* Oliver Milman, *Pacific nations beg for help for islanders when calamity' of climate change hits,* The Guardian, Oct. 13, 2015, *available at* https://www.theguardian.com/environment/2015/oct/14/pacific-nations-beg-for-help-for-islanders-when-calamity-of-climate-change-hits (relaying Pacific island nations' request for a UN body "to coordinate population movement caused by climate change").

[6] Note that monsoon rains in July, 2016 displaced approximately 1.2 million people in India. Associated Press, *Deadly Floods in India Force 1.2 Million People From Homes,* THE NEW YORK TIMES, July 26, 2016.

be the top risk facing society—ahead of weapons of mass destruction, terrorism and the increasing scarcity of potable water.[7]

But all is not bleak on climate change. Remarkable progress has been made by the scientific community over the last few decades to refine climate science, and that progress has enabled policy makers to establish a specific target for the global effort needed to keep the effects of climate change within a range that avoids widespread societal destabilization. That target—the centerpiece of the Paris Agreement—is aimed at " [h]olding the increase in the global average temperature to well below 2 C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change."[8] Thus, the good work of scientists and policy leaders has transformed the issue of climate change from some inchoate threat into a problem that can be tackled by reducing world-wide GHG emissions to meet a specific target.

Unfortunately, achieving those reductions will be a very heavy lift. According to a report of the White House Climate Action Project, "[T]o, have a good chance (not a guarantee) of avoiding temperatures above [2° C], atmospheric concentrations of carbon dioxide would need to peak below about 400 to 450 ppm and stabilize in the long-term at around today's levels.... In order to stabilize CO2 concentrations at about 450 ppm, global emissions would have to decline by about 60 percent by 2050. Industrialized countries' greenhouse gas emissions would have to decline by about 80 percent by 2050."[9] The "Intended Nationally Determined Contributions" that are the building blocks for the Paris Agreement will not achieve emission reductions at these steep levels, so the parties to that agreement view the commitments as a good beginning, to be adjusted over time.

The U.S. Response to Climate Change from a Legal Perspective

The Anglo-American common law system has evolved over the course of centuries to create the ground rules for an orderly society. As the economy has become more complex so has our legal system, which now consists of a matrix of common law and the statutes, rules, and regulations needed to

[7] WORLD ECONOMIC FORUM, THE GLOBAL RISKS REPORT 2016, p. 6, *available at* http://www3.weforum.org/docs/Media/TheGlobalRisksReport2016.pdf.

[8] Paris Agreement, Dec. 12, 2015, art. 2, § 1(a).

[9] Susan Joy Hassol, *Questions and Answers: Emissions Reductions Needed to Stabilize Climate,* Presidential Climate Action Project, *available at* https://www.climatecommunication.org/wp-content/uploads/2011/08/presidentialaction.pdf.

address arcane matters like securities regulation, tax, and environmental controls.

This combination of judicially-created common law, supplemented (and to a material extent supplanted) by statutes and administrative regulation, generally has worked well to provide the codes of behavior needed for predictability in business affairs and in dealings with governmental authorities for more than a century As new problems have emerged, the Courts, legislatures, and governmental agencies have been sufficiently nimble to make the adjustments necessary to keep society—and the economy—generally on track. The U.S. legal system was put to the test by the Great Depression, a time of significant social and economic upheaval. Responding to that catastrophe, the government mounted a vigorous effort to ease the hardship spawned by the economic collapse, while simultaneously addressing its root causes.[10] While the effectiveness of the New Deal in addressing the Great Depression is open to debate, there can be no dispute that the government—and the law—stepped up to the occasion.

The same cannot be said of the climate crisis. Turning a deaf ear to the alarm being sounded by the scientific community, the Congressional response to climate change has been partisan bickering, denial, and obfuscation. Instead of a comprehensive federal program, patchworks of regional, state, and local initiatives—and a handful of narrowly focused executive orders—have been put into place to address the issue. As things now stand, the commitment made by the United States under the Paris Agreement rests heavily on the Clean Power Plan regulations[11] promulgated by the U.S. Environmental Protection Agency ("USEPA") under the Clean Air Act ("CAA"), a 40 year old statute designed to address the distinctly different problem of traditional air pollution. The agency has done its utmost to repurpose that well-worn law to require meaningful GHG emission reductions from the power sector. But the Clean Power Plan is under intense fire in the Courts as exceeding the authority conferred upon the agency by the CAA, and implementation of the regulations has been stayed by the Supreme Court pending the outcome of the litigation.[12]

Moreover, the Clean Power Plan is imperiled by the recent change in administration, given the fact that President Trump has appointed a

[10] A wide array of programs was put into place under the New Deal to get people back to work under the auspices of the Civilian Works Administration, Civilian Conservation Corps, and Public Works Administration, and to provide a safety net for the elderly with Social Security. At the same time, a suite of preventative measures was enacted to ensure bank deposits against insolvency through the Federal Deposit Insurance Corporation; to require the disclosure of material information in securities sales and create the Securities Exchange Commission ("SEC") to enforce those requirements.

[11] 80 F.R. 64662, codified in 40 C.F.R. Part 60.

[12] *Chamber of Commerce v. E.P.A.*, 136 S. Ct. 999 (2016).

prominent opponent of climate regulation to head the USEPA,[13] and has issued an executive order directing the agency to begin a process that may result in the rescission of the plan altogether. Thus, the modest progress achieved by the Obama administration in addressing climate change in recent years on the federal level is now at risk.

Unfortunately, the fact the federal government is unwilling to face up to this impending crisis does not make it go away. The scientific community is warning that time is of the essence and that unless steps are taken to curtail carbon emissions sharply in the next several years—and ultimately to virtually decarbonize the economy—the damage done will be both catastrophic and irreversible.[14]

The Role of Business in Addressing Climate Change

Corporate America did not champion the New Deal reforms. Rather, they were enacted by the federal government in response to a national emergency that many believed to have been caused in large measure by irresponsible business practices.[15] As a result, the business sector was the unwilling target of many of the legislative reforms growing out of the Great Depression. The situation is starkly different with climate change—a problem that is not caused primarily by the activities of the business sector, but by the whole panoply of post-industrial human activities and the emissions generated by those activities from power plants, factories, agricultural facilities, residential, commercial and institutional buildings, and all sorts of mobile sources.[16] Nevertheless, the business sector is in a position to play an outsized role in solving the problem due to the concentrated nature of its emission sources, as well as its ability to tap into technological expertise and capital. In fact, a recent report issued by the Climate Disclosure Project ("CDP") and the "We Mean Business" collaborative indicates that by 2030 actions taken by

[13] Carol Davenport, *Donald Trump Picks Scott Pruitt, Ally of Fossil Fuel Industry, To Lead EPA,* N.Y. TIMES, Dec. 7, 2016, http://www.nytimes.com/2016/12/07/us/politics/scott-pruitt-epa-trump.html.

[14] The World Bank, TURN DOWN THE HEAT: WHY A 4°C WARMER WORLD MUST BE AVOIDED, Nov. 18, 2012.

[15] Reflecting the mood of the time, I. Maurice Wormser, a prominent legal scholar and former dean of Fordham Law School, likened the modern corporation to a "Frankenstein—an artificially created and vitalized monster which became the terror of all living things," and called for a series of reforms needed to bring that "monster" to heel. I. MAURICE WORMSER, FRANKENSTEIN, INCORPORATED (McGraw-Hill Book Company, 1931).

[16] U.S. Environmental Protection Agency, INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990-2014 (EPA 430-R-16-002 Apr. 15, 2016).

business could cut greenhouse gas emissions by 3.2 billion tons per year, representing 60 percent of the reductions pledged in the Paris Agreement.[17]

But corporate leaders face a conundrum. On the one hand they have no regulatory obligation to expend company resources to address the problem of climate change with the vigor that science demands. On the other hand, they have access to technical experts who can provide them with the cold facts on climate change, undistorted by any political agenda. With that information they can recognize the risks that climate change poses, not only to their own operations, but to the overall stability needed for the economy to operate. Thus, corporate directors and managers are focusing on how they should respond to the issue in light of the fiduciary obligations they owe to their companies.

Climate Change and Fundamental Principles of Corporate Governance

Corporate directors and officers have the duty to provide "good and prudent management" to the corporations they serve,[18] and they must discharge those duties with the care that an ordinarily prudent person in a like position would bring to bear under similar circumstances.[19] Directors and officers are bound by both a duty of loyalty and a duty of care, requiring that they act in the best interests of the corporations they serve. Accordingly, an argument could be made that, facing the specter of climate-induced chaos, corporate leaders could risk liability if they fail to prepare their companies for a changing world, while dramatically reducing GHG emissions from their operations. But that is not the case.

The courts—mindful of the chilling effect that ordinary negligence principles would have on the willingness of competent managers to serve in leadership positions—have established the "Business Judgment Rule" to shield corporate leaders from liability for well-informed, good faith decisions.[20] The Business Judgment Rule creates a "presumption that in making a business decision the directors of a corporation acted on an informed basis, in good faith and in the honest belief that the action taken was in the best interests of the company."[21] "[It] exists to protect and promote the full and free exercise of

[17] WE MEAN BUSINESS & CDP, THE BUSINESS END OF CLIMATE CHANGE: HOW BOLD CORPORATE ACTION SUPPORTED BY SMART POLICY CAN KEEP TEMPERATURE RISE BELOW 2°C (2016).

[18] *See Alpert v. 28 Williams St. Corp.*, 63 N.Y.2d 557, 569 (N.Y. 1984).

[19] Model Bus. Corp. Act, §§ 8.30, 8.42; N.Y. C.L.S. Bus. Corp. § 717.

[20] Many states have enacted additional statutory safeguards exculpating directors from liability. Contractual indemnification and insurance may also be available.

[21] *Aronson v. Lewis,* 473 A.2d 805, 812 (Del. 1984).

the managerial power."[22] In addressing an issue of officers' or directors' liability the substance of a particular decision is not at issue, but rather whether "the process employed was either rational or employed in a good faith effort to advance corporate interests."[23] Nonetheless, to enjoy the protection of the Business Judgment Rule, corporate leaders must "have informed themselves 'prior to making a business decision, of all material information reasonably available to them.'"[24] Under the Business Judgment Rule this requirement too is deferential, with a presumption that they have done so.

The presumption of the Business Judgment Rule may be overcome by a showing that the officer or director did not act in good faith or was grossly negligent in failing to take into account readily available material information.[25] Thus, a corporate board that considers the problem of climate change and makes an informed determination to forego any program to reduce GHG emissions in advance of any regulatory requirement likely would be shielded from liability for that determination by the Business Judgment Rule.

The Business Judgment Rule, however, applies to decisions made by a board. It does not apply to oversight duties in the absence of a decision. A failure to act in the face of material concerns may also, potentially, give rise to director liability.[26] Nonetheless, even with potential liability for ignoring red flags, a failure to act in the face of an indefinite business risk such as climate change is unlikely to rise to a level triggering liability.[27]

On the other side of the coin, the Business Judgment Rule also would shield directors and managers from liability for making well-informed decisions to take aggressive action to mitigate and adapt to climate-change—even where those decisions sacrifice some short-term profits. This conclusion is not without controversy, due to the conventional wisdom that corporations have a continuing, overriding duty to maximize profits and enhance shareholder value. The notion of "shareholder primacy" often induces corporate leaders to keep a single-minded focus on quarterly profits, notwithstanding any long-term problems that may be looming. If this view were to control the issue, corporate leaders would be hard-pressed to expend

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[22] *Smith v. Van Gorkom*, 488 A.2d 858, 872 (Del. 1985).

[23] In *re Caremark Int'l Inc. Derivative Litig.*, 698 A.2d 959, 967 (Del. Ch. 1996).

[24] *Van Gorkom*, 488 A.2d at 872 (quoting *Aronson*, 473 A.2d at 812).

[25] *See Van Gorkom*, 488 A.2d at 873.

[26] Thus, the Business Judgment Rule was developed to protect actions that constitute an affirmative exercise of a business "judgment." Some courts have declined to extend such protections to a Board's *failure* to act. In *re Caremark*, 698 A.2d at 967, 970. ([L]iability to the corporation for a loss may be said to arise from an *unconsidered failure of the board to act* in circumstances in which due attention would, arguably, have prevented the loss." (emphasis in original)).

[27] Wallace, Perry E., *Climate Change, Corporate Strategy, and Corporate Law Duties*, 44 WAKE FOREST L. REV. 757, 763 (2009) ("First, and especially pertinent to climate-change issues, the court took a dim view of 'business risk' as a suitable triggering context for fiduciary responsibility.").

meaningful resources on climate-change related activities not required by law or regulation, because by doing so they would be expending resources—and perhaps foregoing near-term profits—to address a problem not yet having a material effect on earnings.

However, the profit maximization theory, as widely accepted as it may be, does not necessarily reflect the law. Although the courts frequently pay lip service to shareholder primacy they have not actually held corporate officials liable for failing to maximize short-term profits.[28] Thus, the protection afforded by the Business Judgment Rule—and its statutory analogues in many states—allow corporate leaders the flexibility to pursue well-informed climate change adaptation and mitigation initiatives, and to expend corporate resources in doing so.[29]

Of course, nothing would stop an aggrieved shareholder from asserting a claim that the expenditure of funds in response to climate change constitutes "waste" of corporate resources, but such a claim would be unlikely to succeed. A claim of waste faces a high bar, requiring a showing "that the board `irrationally squandered' corporate assets—for example where the challenged transaction served no corporate purpose or where the corporation received no consideration at all."[30] Such a showing is unlikely to result from a corporate response to climate change. Not only is the standard difficult for any plaintiff to meet generally, but a response to climate change, when well supported by a reasoned and thoughtful analysis, can be seen as serving a corporate purpose. Since maximizing short-term profit is not the only responsibility of directors and officers, a board should not refrain from responding to the strategic threat of climate change out of fear of liability from an allegation based on waste.

This is particularly so because even in the absence of governmental mandates, strong business-related inducements justify aggressive climate action by corporate leaders. Investor coalitions representing many trillions of dollars in assets have launched campaigns to induce responsible climate action by the corporations they finance.[31] To give one example, the group Ceres has organized the Investor Network on Climate Risk ("INCR"), which

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[28] **L**YNN A. STOUT, THE SHAREHOLDER VALUE MYTH (Cornell Law Faculty Publications, Apr. 19, 2013).

[29] *Id.* at 4 n.18 ("In other words, so long as a public company wants to stay public, directors have no legal obligation to maximize either profits or share value.").

[30] *White v. Panic*, 783 A.2d 543, 554 (Del. 2001) (quoting *Brehm v. Eisner*, 746 A.2d 244, 263 (Del. 2000)).

[31] For example, Ceres—a non-profit organization that self identifies as "advocating for sustainability leadership"—counts more than 1,200 companies as signatories to its Climate Declaration, "a call to action from leading American businesses, urging public, policymakers, and business leaders to seize the economic opportunity in tackling climate change." *See* http://Ceres.org/declaration/resources/climate-declaration-kit-pdf. *See also* INVESTOR PLATFORM FOR CLIMATE ACTIONS, http://investorsonclimatechange.org/initiatives/ (identifying numerous investor initiatives).

consists of more than 120 institutional investors holding more than $14 trillion in assets.[32] Among other things, INCR has filed hundreds of shareholder resolutions on climate change over the last several years, and negotiated withdrawal agreements in which the target companies have committed to disclose and reduce GHG emissions, as well as implement energy efficiency and renewable energy programs.[33]

Similarly, an entity called the Climate Disclosure Project ("CDP") is collecting annual climate-related data on behalf of over 800 member investors with more than $100 trillion in assets.[34] Major banks also are looking increasingly into the climate policies of their clients in making investment and loan decisions.[35] Responding to pressures from the financial sector, more than 5,500 companies voluntarily reported on their mitigation and adaptation efforts to CDP in 2015.[36] Moreover, other climate change/sustainability disclosure regimes have cropped up around the world. Most notably, the "Global Reporting Initiative" ("GRI") provides businesses, governmental and other entities with a framework for reporting on their climate change and sustainability programs.[37] That reporting platform is used by more than 3,000 companies worldwide. CDP and GRI have recently aligned their reporting regimes where the information requested overlaps.

The risks climate change pose to the well-being of the global economy is underscored by the fact that the Financial Stability Board ("FSB")—an international body created by the G20 to safeguard the stability of the world's financial system—has organized a task force chaired by Michael Bloomberg to develop uniform guidelines for the disclosure of climate-change related financial risks in order to "facilitate informed investment, credit and insurance

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[32] INCR counts among its members unions, academic institutions, asset management firms, asset managers, pension funds, and private equity funds. A full list is available at https://www. Ceres. org/investor-network/incr/member-directory.

[33] CERES maintains a list of shareholder resolutions filed by INCR members, which is available at https://www.Ceres.org/investor-network/resolutions.

[34] More information about CDP is available at https://www.cdp.net/en. CDP recently published a report in response to the Paris Agreement, in which it notes, "Measurement and transparency are where meaningful climate action starts, and as governments work to implement the Paris Agreement, CDP will be shining a spotlight on progress and driving a race to net-zero emissions." *Out of the Starting Blocks: Tracking Progress on Corporate Climate Action*, p. 4, CDP, Oct. 2016.

[35] For example, in 2008, Citi, JP Morgan Chase and Morgan Stanley released the "Carbon Principles", whereby they pledged to consider greenhouse gas emissions, as well as the potential effect of current and future climate-related regulatory policies when evaluating the financing of fossil fuel generation in the United States. After their release, three more banks signed on—Wells Fargo, Bank of America and Credit Suisse.

[36] CDP, *CDP Climate Change Report 2015: The Mainstreaming of Low-Carbon on Wall Street*, p. 4, Nov. 2015, *available at* https://b8f65cb373131b7b15feb-c70d8ead6ced550b4d987d7c03fcddl d.ssl.cf3. rackcdn.com/cms /reports/documents/000/000/ 783/original/CDP-USA-climate-change-report-2015.pdf?1471960506.

[37] GRI Standards exist for reporting economic, social, and environmental impacts, with the environmental standards running the gamut of topics from energy and emissions to environmental compliance and supplier assessment. The standards are available for download at https://www.globalreporting.org/standards/gri-standards-download-center/.

underwriting decisions, and to understand the financial system's exposure to such risks."[38] Last year the task force issued two reports: a "Phase 1 Report" (finding current climate-related disclosure regimes to be "fragmented and incomplete," and setting forth fundamental disclosure principles);[39] and a final report, which sets out a detailed framework for the disclosure of risks and opportunities related to climate change.[40] Additional climate disclosure guidance has been issued by other organizations.[41]

The decision on whether to disclose climate-related information is not one that is purely voluntary for some publicly traded corporations. In 2010, the SEC issued guidance advising that climate change risks should be disclosed in filings under the securities laws for publicly-traded companies, to the extent such risks are "material."[42] The guidance identified increasing state and local regulation and the prospect of federal action as potentially having "a significant effect on operating and financial decisions" of companies.[43] SEC further noted that even those not directly regulated could be indirectly impacted financially as their suppliers are affected by the "significant physical effects of climate change that have the potential to have a material effect on a registrant's business and operations."[44]

More specifically, the guidance identifies Item 101, Item 103, Item 503(c), and Item 303 of Regulation S-K as pertinent to potential disclosure obligations. Item 101 includes an express requirement to disclose costs of complying with environmental laws.[45] Item 103 identifies pending legal proceedings, which would include proceedings pursuant to environmental laws and regulations.[46] Item 503(c) is an identification of risk factors that make investing in the company speculative or risky.[47] Item 303, management's discussion and analysis ("MD&A"), is particularly pertinent. SEC's guidance states that "Item 303 requires registrants to assess whether any enacted climate change legislation or regulation is reasonably likely to have a material effect on the registrant's financial condition or results of operation."[48] While an obligation to disclose material risks does not mandate a particular course of

[38] *See* "Phase I Report of the Task Force on Climate-Related Financial Disclosures presented to the Financial Stability Board" (Mar. 31, 2016). Retrieved from https://www.fsb-tcfd.org/wp-content/uploads/2016/03/Phase_I_Report_v15.pdf.
[39] *Id.*
[40] *See* "Recommendations of the Task Force on Climate-Related Financial Disclosures" (December 14, 2016). https://wwwfsb-tcfd.org/publications/.
[41] *See, e.g.* ASTM E2718-10, "Standard Guide for Financial Disclosures Attributed to Climate Change" (2016).
[42] Commission Guidance Regarding Disclosure Related to Climate Change, 75 FR 6290 (Feb. 8, 2010).
[43] *Id.* at 6291.
[44] *Id.*
[45] 17 CFR 229.101(c)(1)(xii).
[46] 75 FR 6293-94.
[47] *Id.* at 6294.
[48] *Id.* at 6296.

action, it does place a spotlight on the impacts of climate change on a corporation.

Thus, large corporations are increasingly disclosing climate-related risks, and are doing so in accordance with SEC guidance and non-governmental protocols. Since good business practice precludes the disclosure of risks without a simultaneous discussion of solutions, those corporations are taking steps to mitigate and adapt to climate change, even in the absence of a governmental mandate to do so.

Business has Taken a Leading Role in Addressing Climate Change

Climate action is not new to corporate America. For more than two decades some leading corporations including Johnson & Johnson, Walmart, Pfizer, and GE have been diligent in reducing their GHG emissions, and preparing their facilities and operations for the effects of climate change. In 2007 a group of the country's largest companies joined together with environmental groups to form the United States Climate Action Partnership ("USCAP"), and urged Congress to enact "[m]andatory approaches to reduce greenhouse gas emissions from the major emitting sectors" including flexible measures such as "cap-and-trade; tax reform . . . or other appropriate policy tools" to "establish a price signal for carbon."[49] When this "call to action" was rejected by the failure of the 2009 Waxman-Markey climate change bill to even see a Senate vote, the USCAP group went dormant.

Nevertheless, corporate action on climate change has ramped up steadily as predictions from climate scientists continue to darken. CDP reports that almost 90 percent of reporting companies had activities in place in 2015 to lower their carbon footprints, compared to less than half in 2010.[50] Likewise, Ceres reports that 60 percent of the nation's top 100 companies had set GHG emission reduction targets, renewable energy commitments, or both, as of 2013.[51] Increasingly, the targets that are being set are not haphazard, but are being guided by sound economic and environmental principles. For example,

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[49] USCAP, A CALL FOR ACTION: CONSENSUS PRINCIPLES AND RECOMMENDATIONS FROM THE U.S. CLIMATE ACTION PARTNERSHIP, 3 (2007), *available at* http://www.merid.org/-/media/Files/Projects/USCAP/USCAP-A-Call-for-Action.

[50] CDP, CDP GLOBAL CLIMATE CHANGE REPORT 2015: AT THE TIPPING POINT?, 6 (Oct. 2015), *available at* https://b8f65cb373131b7b15feb-c70d8ead6ced550b4d987d7c03fcddld.ssl.cf3.rackcdn.com/cms/reports/documents/000/000/578/original/CDP-global-climate-change-report-2015.pdf?1470050331.

[51] *Power Forward 2.0: How American Companies Are Setting Clean Energy Targets and Capturing Greater Business Value*, p. 9, *available at* https://www.Ceres.org/resources/reports/power-forward-2.0-how-american-companies-are-setting-clean-energy-targets-and-capturing-greater-business-value/at_download/file.

almost 200 companies worldwide have made a commitment to adopt "science based targets" to achieve reductions at a rate "consistent with the pace recommended by climate scientists to limit the worst impacts of climate change," and to seek to achieve those targets over the long term.[52] An initiative by CDP, the UN Global Compact, the World Resources Institute ("WRI"), and WWF provides guidance on how to set such goals.[53]

Moreover, companies are beginning to share information on their efforts to reduce GHG emissions. A framework for such collaboration has been created by the Low Carbon Technology Partnerships initiative ("LCTPi") of the World Business Council for Sustainable Development and an organization called "We Mean Business." More than 80 companies have signed on to this "platform for private and public stakeholders to discuss solutions to accelerate low-carbon technology development, and scale up the deployment of business solutions, to a level and speed that are consistent with limiting global warming to below 2°C."[54]

Thus, the corporate record on climate action is considerably better than the one established thus far by the federal government. Indeed, voluntary GHG reductions realized by the business sector could be characterized as impressive if they had come close to putting the U.S. on track to achieve the reductions the scientific community is calling for to avoid catastrophic damage. Unfortunately, that is far from the case: as things now stand there is little prospect for achieving the objective set by the Paris Agreement. In a recent report BP indicated that it projects oil and gas to supply approximately 54 percent of the world's energy needs as of 2035;[55] ExxonMobil is even more bullish, predicting the oil and gas share of the global energy mix will be a whopping 60 percent in 2040.[56] Such predictions of fossil fuel use hardly square with meeting the "well below 2 degrees" goal.

The Path Forward for Corporate America

As the above discussion makes clear, the law affords corporate leaders wide latitude in setting the course on issues of strategic planning such as climate

[52] SCIENCE BASED TARGETS, http://sciencebasedtargets.org/commit-to-setting-science-based-targets/.

[53] *Id.*

[54] *See* WE MEAN BUSINESS, http://www.wemeanbusinesscoalition.org/content/low-carbon-technology-partnerships-initiative.

[55] 2015 BP Annual Report and Form 20-5, p. 11 ("Over the next few decades, we think oil and natural gas are likely to continue to play a significant part in meeting demand for energy. They currently account for around 56% of total energy consumption, and we believe they will decrease to about 54% in 2035.").

[56] *The Outlook for Energy: A View to 2040*, ExxonMobil, 2016, p. *7, available at* http://cdn.exxonmobil.com/-/media/global/files/outlook-for-energy/2016/2016-outlook-for-energy.pdf.

change. However, such discretion is not without limit and may not be so broad as to allow an impending environmental disaster on the scale posed by climate change to be ignored. Whether this issue requires C-level attention turns on the facts and circumstances particular to each corporation.

We have come to the point where any company should, at the very least, assess preliminarily whether its facilities, operations, or business model face risks posed by the changing climate. Such a preliminary assessment should account not only for the direct, but also the indirect physical and regulatory risks that a company may face in the coming years. Potential physical risks range from those that could be immediate and catastrophic, such as the potential for coastal facilities to be inundated by ocean surges associated with more powerful storms. They also could emerge gradually, as agricultural conditions affect raw material supplies or droughts curtail a company's access to potable water. At the same time, evolving regulations may increase fuel prices or require the adoption of emissions control measures that increase the cost of operations. For some corporations, the risks posed by climate change either now are, or soon will be, sufficiently material to require disclosure under the securities laws. For others, they may simply merit attention under principles of prudent corporate management—and plain common sense.

Where the threshold question of whether more detailed climate planning is called for is answered affirmatively, a considerably more complex assessment—often with the assistance of qualified financial, technical, and legal advisors—should ensue.[57] While such plans would differ from one company to another, some elements that would commonly be included are addressed below. In general, companies should address the risks they will face internally as a result of climate change and then turn outward to drive governmental action in a meaningful way.

Emissions Quantification

As climate change begins to take hold, increasingly stringent GHG emission reduction regulations—or some other mechanism placing a "price on carbon"—are likely to be put into place in jurisdictions around the globe. Accordingly, as a company with significant GHG emissions approaches the task of climate planning, it should consider those emissions as a liability, and any reduction in such emissions as an asset. It should understand its emissions profile, and create a plan for how future reductions could be most efficiently accomplished. Moreover, a system should be put into place for the quantification, documentation, and recordation of any permanent emissions reduction that could qualify for credit in an existing or future regulatory regime. The

[57] ANDREW J. HOFFMAN, DIRECTOR NOTES: DEVELOPING AN EFFECTIVE CLIMATE CHANGE STRATEGY 11 (The Conference Board Feb. 2014).

Climate Registry provides a good protocol and platform for such quantification and registration.

Energy Efficiency/Distributed Energy

Since a substantial portion of GHG emissions are caused by the burning of fossil fuel for energy, climate regulations that may eventually come to pass are likely to raise the cost of energy. Thus, companies would be well served by comprehensive energy efficiency programs that reduce the amount of fuel and power needed for operations. Initiatives could be accomplished in phases, with those projects providing the most immediate pay-back being implemented in the first phase, and others proceeding thereafter. Planning should include the consideration of distributed energy sources where appropriate, to provide the company with a more resilient power supply in the face of coming storms.

Asset and Resource Security

Companies with facilities and infrastructure in low-lying coastal areas would be well advised to work with engineers to "harden" those assets to withstand the flooding associated with unusually severe coastal storms. Experts should be consulted to determine whether such facilities are sufficiently insured against storm-related damage, to the extent such insurance is economically available. Assessment of risks posed to other company assets from heat waves, drought, blight, rising sea levels, thawing permafrost, ocean acidification, or disease vectors might also be performed. Likewise, experts might assist the company in examining risks posed to its materials supply chain and developing strategies (such as arrangements with geographically diverse suppliers) that may help mitigate climate-related disruptions.

Due Diligence

Environmental due diligence has become a commonplace aspect of corporate transactions. However, to date such investigations have focused primarily on potential risks and liabilities (such as those posed by hazardous wastes that may have been generated or disposed of by the target company or its predecessors) rather than those associated with climate change. But 21st century environmental concerns will be dominated increasingly by climate change, and the scope of environmental due diligence should be expanded accordingly. All of the topics relevant to climate planning—such as facility integrity, operational resiliency, fuel costs, emissions-related liabilities, supply chain risks, and business model concerns—should be incorporated into the scope of the investigation.

Regulatory Involvement

Notwithstanding the current political situation on the federal level in the U.S., companies should anticipate that the regulatory environment with respect to climate change will be exceedingly dynamic. Accordingly, they

should keep a watchful eye on legal developments on the topic in each of the jurisdictions where they operate. Those companies that may be affected materially by impending regulations should consider enrolling as members in trade or other groups focused on climate change, not only to gain access to timely information but also to have a seat at the table in shaping climate regulations as they evolve.

Potential Opportunities

As a company considers the effect that climate change will have on its business, it should be alert to opportunities as well as challenges. One obvious example is the opportunity to realize operational cost savings through improved energy efficiency, which can be achieved with the assistance of tax credits and other government incentives. Reputational, marketing, and new business opportunities often can result from strategic climate planning, as illustrated by the successes of companies like GE, IKEA, and Unilever.

Conclusion

Modern business requires a level of predictability in order to prosper. Scientists worldwide are warning that the orderly society that has nurtured the modern economy over the last century is at risk of being upended by climate change, and that time is running short to avoid severe economic and social disruption. In the face of inaction by the federal government, the task is falling to business and responsible leaders in other sectors to grapple with climate change. Hundreds of corporations are taking up this challenge, and more can be expected to do so as evidence of the gravity of the problem continues to mount.

But there is a limit to how far corporate leaders will go with voluntary GHG emission reductions, because they will not be willing to put their companies at a significant competitive disadvantage through individual climate change mitigation efforts. Thus, it is foolhardy to believe that the deep carbon reductions scientists believe are needed over the coming decades can be achieved without governmental intervention. It can only be hoped that with the good work of corporate America—and other sectors of society—over the next few years the federal government will come to its senses and put into place a well-considered mix of mandates and incentives to achieve an orderly transition to a sustainable economy. In the meantime, corporations that understand the risk and take steps to grapple with it can seek to protect themselves, claim new opportunities, and drive the ultimate statutory and regulatory schemes that will inevitably arise, sooner or later.