

BOARD RESPONSIBILITIES FOR COMPANY CLIMATE PLANS

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Abstract

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The major research question of this paper is: “*What are boards’ responsibilities for the climate plans of their companies?*” There is no current consensus on how to do so. This paper explores the challenges of boards to assess annual meeting proposals concerning “Say on Climate” by both their own corporations and activist investors (Eccles, 2021; McDonnell, 2022). The guidance for board self-assessment for climate governance is provided. Next guidelines for boards to assess company climate plans are offered, and finally, conclusions are given. The major recommendation in this paper is that boards use six of the ten areas of the Climate Action 100+ Net Zero Company Benchmark Initiative to assess company climate plans. These key areas are climate governance, decarbonization strategy, net zero greenhouse gas (GHG) emissions by 2050 (or sooner) ambition, long-term, medium-term, and short-term GHG reduction targets. It is critical for boards to develop an effective climate governance structure and ensure that a company takes appropriate strategic decisions to manage climate-related risks and opportunities. And the most important role for investors is to ensure board of directors’ accountability.

Keywords: Board Climate Responsibilities, Climate Plans, “Say on Climate” Proposals

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1. INTRODUCTION

Gernot Wagner, a New York University professor, writes the Risky Climate column for *Bloomberg Green News*. He commented: “The way that many business leaders speak about the ‘threat’ of climate policy can be jarring. It took me a while to get used to the fact that, in this world, ‘climate risk’ primarily refers to the effects of climate policy on the bottom line, rather than those of climate change on lives and communities. Some business leaders try to delay action as long as possible, causing untold damage in the process” (Wagner, 2022).

The 2022 United Nations Intergovernmental Panel on Climate Change report said for the world to meet its net-zero climate target, a substantial reduction in overall fossil-fuel use is required right

now. Reclaim Finance, a non-governmental organization headquartered in Paris, has a mission to make finance work for the climate. It issued a 2021 report that said the finance sector continues to fund fossil-fuel development. Over half of the 150 biggest financial institutions globally have no restrictions on financing oil and gas, and two-thirds of the world’s largest banks and asset managers are failing to set concrete climate targets for this decade. Also, this report found that 83% of the world’s biggest polluting firms have yet to map a meaningful path to net-zero emissions. Lucie Pinson, executive director of Reclaim Finance, said: “Now is the time for financial institutions to show that their climate pledges were not pure greenwashing and that they are serious about taking action this year” (White & Roston, 2022).

Reclaim Finance also published a scorecard in 2022 that graded investment firms on their environmental commitments. Thirty of the biggest asset managers, including BlackRock, Vanguard Group, and State Street Global Advisors in the U.S., Axa Investment Managers, and Amundi SA in Europe, were surveyed. This scorecard found that all 30 of these fund managers' policies and investment guidelines were "too flawed" for them to align their entire portfolios with a net-zero emissions target although they were all in the Glasgow Financial Alliance for Net Zero which started in 2021. Twenty-three of these 30 firms allowed investments in companies that are starting new coal projects. None completely restricted holding shares or bonds of companies that are involved in new oil and gas projects. None applied their existing fossil fuel restrictions to their index-tracking assets. Lara Cuvelier, sustainable investments manager at Reclaim Finance, said: "In effect, the fund industry is adding fuel to the fire. These companies continue to provide fresh cash to companies that are ignoring climate science. The bottom line is leading asset managers are kicking the can down the road without even asking companies to stop worsening the climate crisis. Let's be clear. Drilling a new oil well or opening a new coal mine isn't a normal thing to do in a widespread climate catastrophe" (Quinson, 2022).

On March 21, 2022, the U.S. Securities and Exchange Commission (SEC) proposed new rules that, if enacted, would require public companies to include climate-related disclosures in their registration statements and their annual financial reports. This proposed mandate would require public companies to disclose the following climate information (U.S. Securities and Exchange Commission, 2022):

1. How the company's board and senior management plan to manage its climate-related risks.
2. The material impact (i.e., both actual and foreseeable) that the company's climate-related risks have on its business operations and financial statements.
3. An overview of how the company's climate-related risks affect or are likely to affect the company's strategy and future outlook.
4. An outline of the company's process for identifying, assessing, and managing climate-related risks.
5. Information on the company's Scope 1, 2, and 3 greenhouse gas (GHG) emission metrics.
6. Any climate-related goals or targets that the company has set out to achieve.
7. Any climate-related opportunities that the company has identified.

The major research question of this paper is:

RQ: What are boards' responsibilities for the climate plans of their companies?

The structure of this paper is as follows. Section 2 reviews the related literature. Section 3 discusses the methodology. Section 4 presents the corporate proposals for "Say on Climate". Section 5 studies the board self-assessment for climate governance. Section 6 analyzes the board assessment for company climate plans. Section 7 concludes the paper. The major recommendation is that boards use the Climate Action 100+ Net Zero Company Benchmark Initiative to assess company climate plans.

2. LITERATURE REVIEW

This paper expands on four prior research papers which focused on board responsibilities for various aspects of climate impacts on companies. This paper goes beyond these research papers' topics to an overall climate perspective for boards, analyzing board of directors' responsibilities for assessing their companies' climate plans and related risks.

Starting with the most recent publication, Grove, Clouse, and Xu (2022) focused on the challenges for boards of directors in helping their companies manage, assess, and track performance with environmental, social, and governance (ESG) measures. Currently, there are no required ESG measures, just a variety of choices that make comparisons and analyses very challenging for boards, management, and other stakeholders. A measurement theory perspective, which focuses upon valid, reliable, and operational measurement techniques, was advocated for use by management and boards in applying and assessing various ESG measures. If ESG measures are eventually required by national, jurisdictional securities regulatory authorities, such as the U.S. SEC, then boards would have specific benchmarks, targets, and reports to meet the challenge of managing ESG pledges and measures.

The second prior research paper focused on board of directors' responsibilities for monitoring their companies' commitments to net zero emissions goals, practices, and performances by their companies. Such challenges were elaborated with the following topics: overview of climate risk, current climate lawsuits and board risks, EU climate deal, carbon inserts, carbon offsets, carbon credits for agriculture, climate disclosure metrics, global bank greenwashing, and conclusions. This research paper found that a major challenge for boards was to determine whether their companies were really trying to reach zero net emissions or just doing greenwashing. If the International Organization of Securities Commissions Organization (IOSCO) could establish climate disclosure metrics for public companies, an investigation by boards for this greenwashing challenge would be facilitated (Grove & Clouse, 2021a).

The third prior research paper analyzed boards of directors' responsibilities for monitoring their companies' commitments to renewable energy, i.e., are companies and their boards making significant efforts, or just greenwashing. This paper argued that boards have corporate social responsibilities for renewable energy commitments, especially in response to activist investors, like BlackRock, Vanguard, and State Street Global Advisors. It developed boards' responsibilities for assessing renewable energy commitments and for monitoring any greenwashing by their companies with implications for corporate governance (Grove & Clouse, 2021b).

The fourth prior research paper stated that management, boards of directors, investors, and stakeholders should be investigating climate change risks for their companies. For example, there may be increasing operating costs, such as higher compliance costs or increased insurance premiums, due to the physical impacts of climate change and

increasing water scarcity and reputational risks. However, there may also be climate opportunities, particularly focused on consumers, linked to increased revenue through demand for low carbon products, services, and a better competitive position to reflect shifting consumer preferences. There may be opportunities linked to operations focused on reduced operating costs with efficiency gains (Grove, Clouse, & Xu, 2021).

Several papers have discussed general climate issues without focusing on related board responsibilities, such as renewable energy commitments, climate change risk, green banking practices, corporate social responsibility (CSR) reporting, and related impacts on financial performance. For example, Raghunandan and Rajgopal (2021) studied the Business Roundtable (BRT) companies that had signed the Statement of the Purpose of a Corporation when it was issued in August 2019. The research empirically tested whether these signatory firms exhibited superior treatment of employees and the environment relative to non-signatory peer firms within their industries. The research found that the signatory firms had higher rates of environmental and labor violations per various U.S. regulatory agencies. Also, these signatory firms had higher levels of carbon emissions. Thus, these BRT companies appear to be greenwashing their own various stakeholders with the acquiescence of their boards of directors.

Sekarlangit and Wardhani (2021) empirically examined the impact of board characteristics on sustainable development goal (SDG) disclosures. The results showed that the level of SDG disclosure was positively related to the percentage of attendance at board directors' meetings and the existence of CSR committees.

Lahjie, Natoli, and Zuhair (2021) examined the impact of corporate governance on corporate CSR. Their results showed that a lack of CG in monitoring and supervisory mechanisms, as well as a high concentration of managerial ownership, can significantly contribute to low levels of CSR. Gelmini and Vola (2021) investigated integrated reporting and environmental disclosures for the impact on natural capital where a new geological era, the Anthropocene, or the Age of Humans, has been entered. They analyzed the extent and type of information that can be provided on natural capital with integrated reporting and its efficacy to really enhance sustainability practices.

Wukich (2020) investigated if the detriment to environmental disclosures because of chief executive officer's (CEO) power was different for outcome versus intention-oriented disclosure characteristics in a sample of 2,200 U.S. publicly traded companies. This research found that powerful CEOs' suppression of the most comparable outcome-based environmental disclosures (effectiveness) was greater than the suppression of other environmental disclosures. Malik and Yadav (2020) aimed to explain whether the declaration of sustainability ratings contributes to the stock market reaction in emerging markets. They showed that the announcement of sustainability ratings was not regarded by investors with a great deal of interest and there is inherent indifference to such news in these emerging stock markets. Longo and Tenuta (2020) assessed

sustainability at different levels of environmental, economic, and socio-institutional detail, using the triple bottom line approach. A Sustainable Irrigation Index was built to monitor and assess the sustainability of irrigation activities and policies and was applied successfully in a case study.

Rainero and Modarelli (2020) showed a crucial role of CSR promotional activities as an anti-crisis solution during the recent COVID-19 pandemic, based on a sample of 208 respondents. Corporate reputation and image were enhanced. Arulrajah Senthilnathan, and Rathnayake (2020) analyzed green information technology (GIT) practices in Sri Lanka banks by analyzing the relationships among GIT practices, environmental performances of banks (EPB), and employees' attitudes toward GIT (EAG). They found that GIT practices had a positive relationship to and significant impact on EPB and a mediating partial role of EAG. Malsha, Arulrajah, and Senthilnathan (2020) did another Sri Lankan bank study which found a partial mediation role of employee green behavior in the relationship between green banking practices and banking sustainability performance.

Bonuedi, Ofori, and Simpson (2020) found that CSR reporting was used in correcting negative perceptions and stakeholder skepticism. However, there was very little information on the existence of mechanisms that promote the implementation of stakeholder management policies at the firm level. Firmamsyah and Estutik (2020) found that environmental responsibility and social responsibility disclosures were negatively associated with tax aggressiveness. However, corporate governance failed to strengthen these negative influences.

One stream of literature empirically examines the relation between the firms' environmental and economic performance. Hyami, Nakamura, and Nakamura (2015) employed the input-output methodology to study the generation of waste material and GHG in the manufacturing supply chains in Japan. They found that assemblers with suppliers producing less waste and GHG had better economic performance. The results suggest that encouraging suppliers to reduce waste output can lead to an internal green product, increase cost savings, and enhance competitive advantage.

CDP, a non-profit global organization based in the UK, issued its 2019 Global Climate Change report which surveyed 6,937 companies, identified by region and industry (CDP, 2019). The largest region responders were Europe (1,813 companies), the United States of America (1,784 companies), China (750 companies), and India (710 companies). Of the 14 industries, the largest ones were manufacturing (2,312 companies), services (1,193 companies), materials (760 companies), and food, beverage and agriculture (689 companies). These companies reported general climate risks linked to increasing governmental climate policies, particularly GHG pricing. However, they viewed transition to low carbon as an opportunity, even though it could result in reduced demand for their products from market changes or consumer preferences, such as the switch towards electric vehicles, increasing reputational risks, and potential shifts in their costs of capital.

3. METHODOLOGY

Boards of directors have been called upon to navigate the challenges presented by climate changes that are fundamental to the success and sustainability of their companies. However, there remains a dearth of guidance to assist directors in their duty to understand and address the climate-related risks and opportunities.

This paper studies the recent development in the climate governance area and provides a foundational framework to enhance boards' climate competence and equip them with right tools to effectively integrate climate into decision-making. Specifically, our paper analyzes the "Say on Climate" proposals, lays out the principles for boards to conduct their own climate governance assessment, and offers useful guidance to assess their companies' climate plan.

An alternative method is to draw on prior literature and develop an analytical framework on the role of boards in climate governance (Short, 2009).

4. DISCUSSION ON CORPORATE PROPOSALS FOR "SAY ON CLIMATE"

The investment research firm MSCI has analyzed "Say on Climate" companies' proposals for their investors. Since the beginning of 2021, at least 33 companies in the U.S. and Europe, predominantly in high-emissions sectors, like oil and gas, as well as infrastructure companies and household product manufacturers, like Unilever, have held "Say on Climate" votes. These company proposals asked investors to give a non-binding thumbs-up to their climate plans. All passed, according to MSCI. Critics say these votes can be used as a tool for greenwashing. Guillaume Pottier, a corporate engagement strategist at Reclaim Finance, said: "Companies are eager to show action without doing the real work behind it. It's easy to have big investors who aren't experts give you a 95% rubber-stamp approval for a fake climate plan" (McDonnell, 2022).

Glass Lewis and ISS, proxy voting advisory firms, observed that since the first votes on "Say on Climate" took place in 2021, they have mostly served to validate low-quality plans and preempt more proactive investor involvement. Most of these votes are the company's idea, not that of activist shareholders. The Reclaim Finance strategist Pottier said: "It complicates meaningful engagement with management and you're in a more difficult position to ask anything else of the company" (McDonnell, 2022).

A timely 2022 example was the 76% shareholder support for the climate progress report at the annual general meeting of Glencore, the Swiss mining and commodities company, one of the world's largest coal producers. It committed to bringing its net GHG emissions to zero by 2050 but is planning to expand its coal mining and not phase it out until after 2040. Both Glass Lewis and ISS had recommended that shareholders vote against the company's climate policy as they had raised concerns ranging from Glencore's lack of board oversight for its climate program, whether its coal strategy was consistent with its net-zero emissions,

and its role in pro-coal lobbying. At least since the shareholder support was under 80% (versus 94% in 2021); Glencore will have to consult with shareholders on its climate strategy (Biesheuvel, 2022).

Sir Christopher Hohn, the founder and portfolio manager of TCI Fund Management, an activist hedge fund, said: "While over 35% of total emissions are due to companies, most are failing to take sufficient action on climate change. Only three percent of listed companies have science-based emissions targets and the biggest asset managers have appalling voting records on the few climate resolutions that are filed" (Eccles, 2021). He recommended that any "Say on Climate" climate resolutions have three key features:

1. Provide an annual disclosure of emissions.
2. Present a plan to manage those emissions.
3. Hold a vote on the plan at their annual shareholder meeting.

Emma Sjostrom, a Stockholm School of Economics professor, has studied what works on active ownership of environmental and social issues and found: "Shareholder resolutions on environmental and social issues have historically received low levels of support as most shareholders tend to vote with company management. These shareholder resolutions are precatory (non-binding) on the company in any way" (Eccles, 2021).

Three University of Cambridge professors studied the advantages and disadvantages of divestment and the effectiveness of different forms of engagement in changing company behavior. They found no compelling evidence of a causal relationship between disclosure and improved performance, and it was difficult to assume as successful any engagement that secured improved disclosure as its only outcome. Also, implementation rates were poor even for successful shareholder resolutions requesting disclosure only. Instead, what was most effective was voting against re-election of board directors on an issue that investors felt the company was failing to adequately address (Eccles, 2021).

A further problem with "Say on Climate" resolutions is that it is yet another disclosure idea entering a very crowded field that is finally starting to harmonize. There is already worldwide support and participation in the disclosure framework of the Task Force on Climate-related Financial Disclosures (TCFD). There are currently 1,650 companies from 69 countries reporting with the TCFD framework and some European markets are moving to make this framework mandatory. The TCFD framework already includes governance, strategy, risk management, metrics, and targets plus scenarios. It is not clear what any competing format can achieve and is more likely to just be confusing to companies and investors alike (Eccles, 2021).

For example, this U.S. SEC proposal for a climate change disclosure rule runs 506 pages with 1,068 footnotes. It would impose an estimated \$10 billion cost on society and require companies to report information that may not be valid and reliable. It would require companies to report their GHG emissions. Direct Scope 1 emissions from operations are measurable but challenges arise with indirect Scope 2 emissions from purchased energy and Scope 3 emissions from suppliers and consumers who use the company's products and

services. This SEC rule also would require companies to assess the transition risk from climate change as companies and the economy move away from oil and natural gas (Sgamma & Stewart, 2022).

Robert Eccles, a Harvard Business School professor now at Oxford University, has argued that Hohn's three key features for "Say on Climate" climate resolutions do not go far enough. He said: "the most important role for investors is to ensure board of directors' accountability. Why expend all this time and energy starting with climate disclosure when evidence is clear that it alone does not do much to change company climate behavior and that eventually a vote against directors is required" (Eccles, 2022).

"Say on Climate" votes are becoming more commonplace in 2022. To prevent such proposals from becoming an exercise in greenwashing, it is up to investors to weigh them critically. The Reclaim Finance strategist Pottier recommended a twofold solution. First, government regulators should set more specific criteria for what kind of data companies need to include in climate disclosures, so that "Say on Climate" voters have what they need to make an informed judgment. Second, shareholders should vote out board directors who do not get serious about climate (McDonnell, 2022). A timely example in 2021 was the activist investors (with major passive investors' help) who replaced three old directors with new climate-friendly directors on Exxon Mobil's board.

Professor Eccles advocated a starting point to identify company and board climate targets is climate disclosure (or the lack thereof), using the work of Climate Action 100+. Founded in 2017, it is a coalition of 545 investors holding \$52 trillion in assets under management. It is focused on 160 global companies that are responsible for the third largest source of global emissions after China and the U.S. and designates these systematically important carbon emitters as critical to the net-zero emissions transition and for meeting the objectives of the Paris Climate Agreement. These companies are in six economic sectors: oil and gas, mining and metals, utilities, industrials, transportation, and consumer products. Each company is benchmarked, according to government oversight, target setting, capital expenditure, and related issues, such as political lobbying and executive compensation for incentive alignment. Eccles recommends that, instead of "Say on Climate" resolutions, have investors in the bottom companies in each sector mobilize a vote against their company directors. Similarly, Anne Simpson, Managing Investment Director, Board Governance and Sustainability of CalPERS, the largest public pension fund in the U.S. with \$360 billion in assets, said: "These Climate Action 100+ companies generate 85% of the emissions in our portfolio and we look forward to continuing to exchange ideas with Sir Christopher Hohn and coordinate to ensure real climate change" (Eccles, 2022).

An important area that companies are assessed based on the Climate Action 100+ Net Zero Benchmark is the capital alignment, *Indicator 6*. A company's future investments need to be clearly aligned with the net zero transition. The following are two sub-indicators and the related metrics. For example, to be assessed as "yes" on 6.1(b),

the company must explicitly commit to aligning its capital expenditures decisions and plans with a 1.5° Celsius pathway.

Sub-indicator 6.1: The company is working to decarbonize its capital expenditures:

Metric a): The company explicitly commits to align its capital expenditure plans with its long-term GHG reduction target or to phase out planned expenditure on unabated carbon-intensive assets or products.

Metric b): The company explicitly commits to align its capital expenditure plans with the Paris Agreement's objective of limiting global warming to 1.5° Celsius and phasing out investment in unabated carbon-intensive assets or products.

Sub-indicator 6.2: The company discloses the methodology used to determine the Paris alignment of its future capital expenditures:

Metric a): The company discloses the methodology and criteria it uses to assess the alignment of its capital expenditure plans with its decarbonization goals, including key assumptions and key performance indicators (KPIs).

Metric b): The methodology quantifies key outcomes, including the percentage share of its capital expenditures that is invested in carbon-intensive assets or products, and the year in which capital expenditures in such assets will peak (Climate Action 100+, 2021).

5. DISCUSSION ON BOARD SELF-ASSESSMENT FOR CLIMATE GOVERNANCE

A board's company may not be one of the 1,650 global companies using the TCFD climate disclosure framework or may not be one of the 166 global companies analyzed by the Climate Action 100+ organization. Even if a board's company is one of those in either of these two analyses, a board may want to do further analysis of its company's climate plan using the Climate Action 100+ Net Zero Company Benchmark Initiative. It assesses the performance of companies against three high-level goals: 1) reducing GHG emissions, 2) improving governance, and 3) strengthening climate-related financial disclosures (Climate Action 100+, 2021).

This disclosure framework values the adequacy of corporate disclosures in relation to key actions companies can take to align their businesses with the Climate Action 100+ and Paris Climate Agreement goals. There are ten different benchmark areas that are evaluated. Possibly, a board may want to start with its own climate governance assessment which is the eighth benchmark area as follows (Climate Action 100+, 2021):

Indicator 8 — Climate Governance:

Sub-indicator 8.1: The company's board has clear oversight of climate change.

Metric a): The company discloses evidence of board or board committee oversight of the management of climate change risks via at least one of the following:

- there is a C-suite executive or member of the executive committee that is explicitly responsible for climate change (not just sustainability performance) and that executive reports to the board or a board-level committee, and/or

- the CEO is responsible for climate change, and he/she reports to the board on climate change issues, and/or

- there is a committee (not necessarily a board-level committee) responsible for climate change (not just sustainability performance) and that committee reports to the board or a board-level committee.

Metric b): The company has named a position at the board level with responsibility for climate change, via one of the following:

- a board position with explicit responsibility for climate change, or
- the CEO is identified as responsible for climate change if he/she sits on the board.

Sub-indicator 8.2: The company's executive remuneration scheme incorporates climate change performance elements:

Metric a): The company's CEO and/or at least one other senior executive's remuneration arrangements specifically incorporate climate change performance as a KPI determining performance-linked compensation (reference to 'ESG' or 'sustainability performance' are insufficient).

Metric b): The company's CEO and/or at least one other senior executive's remuneration arrangements incorporate progress towards achieving the company's GHG reduction targets as a KPI determining performance-linked compensation (requires meeting relevant target indicators in climate assessment areas 2, 3, and/or 4).

Sub-indicator 8.3: The board has sufficient capabilities/competencies to assess and manage climate-related risks and opportunities:

Metric a): The company has assessed its board competencies with respect to managing climate risks and discloses the results of the assessment.

Metric b): The company provides details on the criteria it uses to assess the board competencies with respect to managing climate risks and/or the measures it is taking to enhance these competencies.

As an example of board assessment for climate governance, Climate Action 100+ provided data on Berkshire Hathaway Inc. (BH) (Climate Action 100+, 2021). The company did not meet any of these nine climate governance criteria. However, at the BH annual shareholder meeting on April 30, 2022, all 15 board members were re-elected with an average of 95% approval (Berkshire Hathaway Inc., 2022). Similarly, BH did not meet the criteria in any of the other nine benchmark areas of this Climate Action 100+ approach. The prior "Say on Climate" analysis recommended that the most important role for investors is to ensure board of directors' accountability. Thus, this recommendation to focus on removing directors who did not support climate change for their companies failed at BH.

6. DISCUSSION ON BOARD ASSESSMENT FOR COMPANY CLIMATE PLANS

Besides the eighth benchmark area of corporate governance, there are nine other benchmark areas in the Climate Action 100+ corporate disclosure framework that can be used by a board to assess company climate plans (Climate Action 100+, 2021). The first four benchmark areas cover GHG emissions ambitions, including long-term, medium, and short-term targets for Scope 1, 2, and 3 emissions as follows:

Indicator 1 — Net Zero GHG Emissions by 2050 (or Sooner) Ambition:

Sub-indicator 1.1: The company has set an ambition to achieve net zero GHG emissions by 2050 (or sooner):

Metric a): The company has made a qualitative net zero GHG emissions ambition statement that explicitly includes at least 95% of its Scope 1 and 2 emissions.

Metric b): The company's net zero GHG emissions cover the most relevant Scope 3 GHG emissions categories for the company's sector, where applicable.

Indicator 2 — Long-term (2036-2050) GHG Reduction Target(s):

Sub-indicator 2.1: The company has set a target for reducing its GHG emissions by between 2036 and 2050 on a clearly defined scope of emissions.

Sub-indicator 2.2: The long-term (2036 to 2050) GHG reduction target covers at least 95% of Scope 1 and 2 emissions and the most relevant Scope 3 emissions (where applicable):

Metric a): The company has specified that this target covers at least 95% of its total Scope 1 and 2 emissions.

Metric b): If the company has set a Scope 3 GHG emissions target, it covers the most relevant Scope 3 emissions categories for the company's sector(s), and the company has published the methodology used to establish any Scope 3 target.

Indicator 3 — Medium-term (2026 to 2035) GHG Reduction Target(s):

Sub-indicator 3.1: The company has set a target for reducing its GHG emissions by between 2026 and 2035 on a clearly defined scope of emissions.

Sub-indicator 3.2: The medium-term (2026 to 2035) GHG reduction target covers at least 95% of Scope 1 and 2 emissions and the most relevant Scope 3 emissions (where applicable):

Metric a): The company has specified that this target covers at least 95% of its total Scope 1 and 2 emissions.

Metric b): If the company has set a Scope 3 GHG emissions target, it covers the most relevant Scope 3 emissions categories for the company's sector(s) and the company has published the methodology used to establish any Scope 3 target.

Sub-indicator 3.3: The target (or, in the absence of a target, the company's latest disclosed GHG emissions intensity) is aligned with the goal of limiting global warming to 1.5° Celsius.

Indicator 4 — Short-term (up to 2025) GHG Reduction Target(s):

Sub-indicator 4.1: The company has set a target for reducing its GHG emissions up to 2025 on a clearly defined scope of emissions.

Sub-indicator 4.2: The short-term (up to 2025) GHG reduction target covers at least 95% of Scope 1 and 2 emissions and the most relevant Scope 3 emissions (where applicable):

Metric a): The company has specified that this target covers at least 95% of its total Scope 1 and 2 emissions.

Metric b): If the company has set a Scope 3 GHG emissions target, it covers the most relevant Scope 3 emissions categories for the company's sector(s) and the company has published the methodology used to establish any Scope 3 target.

Sub-indicator 4.3: The target (or, in the absence of a target, the company's latest disclosed GHG emissions intensity) is aligned with the goal of limiting global warming to 1.5° Celsius.

The fifth benchmark area analyzes legitimate decarbonization strategies beyond just the effects of climate policy upon a company's bottom line, as emphasized by Professor Wagner's quote that began this paper.

Indicator 5 — Decarbonization Strategy (Target Delivery):

Sub-indicator 5.1: The company has a decarbonization strategy that explains how it intends to meet its long and medium-term GHG reduction targets:

Metric a): The company identifies the set of actions it intends to take to achieve its GHG reduction targets over the targeted timeframe. These measures clearly refer to the main sources of its GHG emissions, including Scope 3 emissions, where applicable.

Metric b): The company quantifies key elements of this strategy with respect to the major sources of its emissions, including Scope 3 emissions, where applicable (e.g., changing technology or product mix, supply chain measures, and R&D spending).

Sub-indicator 5.2: Currently, this 5.2 area and related metrics only apply to companies headquartered on the European continent. The company's decarbonization strategy (target delivery) specifies the role of green revenues from low-carbon products and services.

Metric a): The company already generated green revenues and discloses its share in overall sales.

Metric b): The company has set a target to increase the share of green revenues in its overall sales or discloses the green revenue share that is above the sector average.

Boards may want to assess the other four, possibly less critical, Climate Action 100+ benchmark areas as needed for company climate risk assessment as follows:

- *Indicator 6 — Capital Alignment;*
- *Indicator 7 — Climate Policy Engagement;*
- *Indicator 9 — Just Transition;*
- *Indicator 10 — TCFD Disclosure.*

Refer to the Appendix for details on these four areas.

The prior "Say on Climate" discussion did mention that investors could introduce other proposals at annual shareholder meetings to emphasize additional focus on climate plans and activities. Again, using the BH 2022 annual meeting example, investors introduced four additional proposals, numbered two through five¹. The BH board recommended against approval of all four additional proposals (Berkshire Hathaway Inc., 2022):

1. A shareholder proposal requesting that the company's board chair be an independent director.

2. A shareholder proposal requesting an annual assessment of climate risk management.

3. A shareholder proposal requesting information regarding how the company intends to measure, disclose, and reduce greenhouse gas emissions associated with the company's underwriting insurance and investment activities.

4. A shareholder proposal requesting reporting of diversity and inclusion efforts.

BH did not meet any of the 65 Climate Action 100+ specific criteria included in the ten benchmark areas for climate plans and activities for either 2022 or 2021. Climate Action 100+ found that other big U.S. companies met or partly met at least some of its criteria. The BH Energy (BHE) subsidiary has set weaker targets for carbon emissions than other major utility companies, like Duke Energy, Dominion Energy, and Xcel Energy. Also, BH has not publicly pledged to reduce Scope 3 emissions, as opposed to such pledges by these three major energy competitors (Eavis, 2022). These four shareholder proposals were rejected: 89% for number 2 and 74% for numbers 3, 4, and 5 (Berkshire Hathaway Inc., 2022). Yet 47% of the independent shareholders (26.5% overall), holding more than \$43 billion in shares, voted in favor of proposal 4 to measure, disclose, and reduce GHG emissions (Spear, 2022).

In response to this fourth shareholder proposal for GHG emissions disclosures, Warren Buffett argued that BH already discloses plenty of climate information. BH has set GHG reduction targets for its BNSF railroad and BHE business segments. BNSF has committed to GHG emissions reductions of 30% by 2030 as measured from its baseline. BHE is one of the largest producers of wind energy in the U.S. and plans to retire an additional 16 coal units between 2022 and 2030. BHE also plans to achieve its 50% GHG emissions reduction target for 2030. According to BHE, these targets cover 90% of BH's direct Scope 1 emissions. Also, BH updated its audit committee charter to include oversight of climate (Climate Action 100+, 2021).

In response to this third shareholder proposal requesting an annual assessment of climate risk management, Warren Buffett has refused to put a number on BH's financial exposure to climate change which is likely to be enormous, given that it is one of the largest property and casualty insurers in the world (Eavis, 2022). This proposal underscored shareholders' concern that BH was not adequately assessing the climate risk of its insurance operations, which make up more than 26% of its business and is its largest value segment, creating significant climate risk to the company. 2021 was the second most costly year on record for the world's insurers, with insured losses totaling \$120 billion from natural catastrophes. BH's combined insurance units posted an \$84 million pre-tax operating loss, largely attributable to \$1.7 billion in catastrophe claims, including claims from Hurricane Ida in the U.S. and flooding in Europe (Spear, 2022).

The BH loss follows a larger global trend where insured losses from natural disasters reached \$42 billion. Danielle Fugere, president of As You Sow, a shareholder advocacy nonprofit organization that promotes environmental and social corporate responsibility, said: "These losses can no longer be categorized as simply a bad year. As noted by the risk reinsurer Munich Re, economic losses caused by natural catastrophes are trending upward. The litany of national and global events associated with climate change — the fires in California and Colorado, floods across the Midwest, the growing strength of hurricanes, and the deep freeze in Texas, to name a few — demonstrate this increasing risk" (Spear, 2022).

¹ Number one was the previously discussed 95% successful re-election of all 15 BH directors.

Advocates for this third shareholder proposal noted that BH is not only exposed to climate-related risks but is actively amplifying these risks through its investments in and underwriting of high carbon activities. BH is one of the largest providers of coverage to the oil and gas industry, surpassing insurance peers such as Chubb and Liberty Mutual. Its shareholdings in coal alone are \$5.1 billion, far surpassing its American peers. Also, BH is not a member of the Net Zero Insurance Alliance (NZIA), which has 22 members, seven of which are in the top 30 largest global insurers by market capitalization. All NZIA members have committed to transitioning their underwriting portfolios to net-zero GHG emissions by 2050 (Spear, 2022).

7. CONCLUSION

Boards have many strategies concerning responsibilities for assessing their companies' climate plans. The major research question of this paper concerned boards' responsibilities for the climate plans of their companies. It was elaborated with the major sections of this paper: literature review, corporate proposals for "Say on Climate", board self-assessment for climate governance, board assessment for company climate plans, and conclusions. Such a research effort is important because we still lack a comprehensive and systematic understanding of this emergent body of inquiry.

The major conclusion for boards' responsibilities concerning companies' climate plans is to use the comprehensive Climate Action 100+ Net Zero Company Benchmark Initiative which was created by five global investor networks, Asia International Group on Climate Change, Ceres North American Engagement Group, International Australasia Group on Climate Change, Institutional European Investment Group on Climate Change, and Principles for Responsible Investing. This benchmark was applied to 166 global companies in 2021 and is an ongoing project. We emphasize six key benchmark areas of this Net Zero Initiative for board climate plan responsibilities as follows.

Regardless of whether its company is in the Climate Action 100+ database, the board should start with its own self-assessment which is the eighth benchmark area of climate governance. The three major areas are as follows:

Sub-indicator 8.1: The company's board has clear oversight of climate change.

Sub-indicator 8.2: The company's executive remuneration scheme incorporates climate change performance elements.

Sub-indicator 8.3: The board has sufficient capabilities/competencies to assess and manage climate-related risks and opportunities.

Each of these three areas has two sub-categories to help facilitate the board's self-assessment of their involvement in a company's climate plans.

Next, the board should assess the fifth benchmark area of decarbonization strategy which is the key challenge for assessing a company's climate plans. As Gernot Wagner, a New York University professor, said: "The way that many business leaders speak about the 'threat' of climate policy can be jarring. It took me a while to get used to the fact

that, in this world, 'climate risk' primarily refers to the effects of climate policy on the bottom line, rather than those of climate change on lives and communities. Some business leaders try to delay action as long as possible, causing untold damage in the process" (Wagner, 2022).

All these "Say on Climate" company proposals to their investors are a red flag for companies' delays in meaningful climate plans and activities to respond to climate risks for their own companies. Section 5.1 for recommended aspects of a company's decarbonization strategy is reproduced here for a board to consider as possible red flags for its company's climate risks (Section 5.2 on green revenue assessments only applies to European companies).

Sub-indicator 5.1: The company has a decarbonization strategy that explains how it intends to meet its long and medium-term GHG reduction targets.

Metric a): The company identifies the set of actions it intends to take to achieve its GHG reduction targets over the targeted timeframe. These measures clearly refer to the main sources of its GHG emissions, including Scope 3 emissions where applicable.

Metric b): The company quantifies key elements of this strategy with respect to the major sources of its emissions, including Scope 3 emissions where applicable (e.g., changing technology or product mix, supply chain measures, R&D spending, and capital spending).

To help assess a company's climate risk, a board should focus on the above key elements concerning the decarbonization strategy denoted in Section 5.1b. Additional key elements that could pose climate risks to a company include federal and local government climate laws, court climate rulings, local community protests, and changing customer preferences, based on climate concerns. Such threats would probably be focused on GHG emissions so the first four Climate Action 100+ benchmark areas may also be needed or legally required for a company's climate risk assessment. For example, the SEC proposed rules for climate-related disclosures include information on a company's Scope 1, 2, and 3 GHG metrics and any climate-related goals and targets, which correspond to these first four benchmark areas:

- *Indicator 1 — Net Zero GHG Emissions by 2050 (or Sooner) Ambition;*
- *Indicator 2 — Long-term (2036-2050) GHG Reduction Target(s);*
- *Indicator 3 — Medium-term (2026 to 2035) GHG Reduction Target(s);*
- *Indicator 4 — Short-term (up to 2025) GHG Reduction Target(s).*

These first five Climate Action 100+ benchmark areas and the eighth benchmark area of climate governance include discussions of KPIs and methodologies used to set GHG targets and metrics. Also, boards may want to assess the other four Climate Action 100+ benchmark areas as needed for company climate risk assessment:

- *Indicator 6 — Capital Alignment;*
- *Indicator 7 — Climate Policy Engagement;*
- *Indicator 9 — Just Transition;*
- *Indicator 10 — TCFD Disclosure.*

Boards may also want to consider BlackRock's new perspective on activist shareholder resolutions for climate change that have become too extreme or too prescriptive. Larry Fink, BlackRock's chairman and CEO of this largest global asset manager with \$10 trillion in investments, has used his firm's weight to push climate to the top of the stakeholder agenda in his annual letters to all public company CEOs. As a passive investor, BlackRock is using a more selective approach this year. It will continue to vote for proposals that call for improved climate disclosures or that push companies with no climate transition plan to come up with one. However, it is parting ways with activist investors on proposals that it considers micromanagement or against the financial interest of shareholders (Stuttaford, 2022).

For example, BlackRock said that Russia's invasion of Ukraine has changed the investment environment to require more short-term investments in traditional fuel production for boosting energy security. It is particularly wary of proposals that

stop financing fossil fuels companies and/or that force them to decommission assets, as well as proposals that set absolute targets for companies to reduce emissions in their supply chains and for their customers (Scope 3 emissions). BlackRock wrote that such proposals were not consistent with its clients' long-term financial interests. However, it did vote against the reelection of two directors at an Australian coal company "to signal persistent concern that the company is not proactively or ambitiously managing the climate risk" (Stuttaford, 2022). Such a BlackRock vote emphasizes the key board responsibility to assess the climate risk of its company, as developed in this paper.

Our paper is limited to the fundamental analysis of boards' responsibilities to address the climate challenges. Future research could empirically investigate the impact of specific boards' characteristics on climate disclosures and proactive environmental strategies.

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APPENDIX

The other three Climate Action 100+ benchmark areas for company climate risk assessment are: *Indicator 7 — Climate Policy Engagement; Indicator 9 — Just Transition; Indicator 10 — TCFD Disclosure.*

Indicator 7 — Climate Policy Engagement:

Sub-indicator 7.1: The company has a Paris Agreement-aligned climate lobbying position and all of its direct lobbying activities are aligned with this:

Metric a): The company has a specific commitment/position statement to conduct all of its lobbying in line with the goals of the Paris Agreement.

Metric b): The company lists its climate-related lobbying activities, e.g., meetings, policy submissions, etc.

Sub-indicator 7.2: The company has Paris Agreement-aligned climate lobbying expectations for its trade associations, and it discloses its trade association memberships:

Metric a): The company has a specific commitment to ensure that the trade associations the company is a member of lobby in line with the goals of the Paris Agreement.

Metric b): The company discloses its trade associations memberships.

Sub-indicator 7.3: The company has a process to ensure its trade associations lobby in accordance with the Paris Agreement:

Metric a): The company conducts and publishes a review of its trade associations' climate positions/alignment with the Paris Agreement.

Metric b): The company explains what actions it took as a result of this review.

Indicator 9 — Just Transition

Just transition is an approach that requires a company to consider the impacts of transitioning to a lower-carbon business model on its workers and communities:

Sub-indicator 9.1: Acknowledgement:

Metric a): The company has made a formal statement recognizing the social impacts of its climate change strategy — the *just transition* — as a relevant issue for its business.

Metric b): The company has explicitly referenced the Paris Agreement on Climate Change and/or the International Labor Organization's (ILO's) Just Transition Guidelines.

Sub-indicator 9.2: Commitment

The company has committed to Just Transition principles:

Metric a): The company has published a policy committing it to decarbonize in line with Just Transition principles.

Metric b): The company has committed to retain, retrain, redeploy, and/or compensate workers affected by decarbonization.

Sub-indicator 9.3: Engagement

The company engages with its stakeholders on Just Transition:

Metric a): The company, in partnership with its workers, unions, communities, and suppliers, has developed a Just Transition Plan.

Sub-indicator 9.4: Action

The company commits to a decarbonization strategy in line with Just Transition principles:

Metric a): The company supports low-carbon initiatives (e.g., regeneration, access to clean and affordable energy, site repurposing) in regions affected by decarbonization.

Metric b): The company ensures that its decarbonization efforts and new projects are developed in consultation with and seek the consent of affected communities.

Metric c): The company takes action to support financially vulnerable customers that are adversely affected by the company's decarbonization strategy.

Indicator 10 — TCFD Disclosures:

Sub-indicator 10.1: The company has committed to implement the recommendations of the TCFD:

Metric a): The company explicitly commits to align its disclosures with the TCFD recommendations or it is listed as a supporter on the TCFD website.

Metric b): The company explicitly sign-posts TCFD aligned disclosures in its annual reporting or publishes them in a TCFD report.

Sub-indicator 10.2: The company employs climate-scenario planning to test its strategic and operational resilience:

Metric a): The company has conducted a climate-related scenario analysis including quantitative elements and disclosed its results.

Metric b): The quantitative scenario analysis explicitly includes a 1.5° Celsius scenario, covers the entire company, discloses key assumptions and variables used, and reports on the key risks and opportunities identified.