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"Green" Corporate Governance

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"GREEN" CORPORATE GOVERNANCE

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I. INTRODUCTION

This chapter explores the rise and future of "green" corporate governance, including how concerns about the changing climate are shaping long-extant debates in corporate law.[2] This area is difficult to survey in one short chapter, both because it has exploded in importance, and because it intersects in its own way with many of the topics discussed in the above chapters. Compliance, directors' duties, corporate purpose, corporate groups, and investor stewardship, are just a few of the issues bound up in the rapid and recent shift toward thinking about climate change and its intersection with corporate governance.[3]

The rise of Environmental Social and Governance (ESG) investing this past decade has been impossible to miss, especially once the practice became a political target for the conservative right in America.[4] This chapter will discuss issues related to climate change and corporate governance, which overlap with "ESG" concerns (particularly, of course, the 'E'), but are not necessarily synonymous with them.[5] Though "greening" corporate governance is an all-encompassing strategy, this chapter will focus on the following three areas of recent development: first, climate-related investing, including shareholder stewardship; second, regulatory changes, and third, board duties in the face of climate risk.

Both the political discourse and the academic literature can sometimes "confuse and conflate" a corporations' steps to respond to the physical effects of climate change and its steps to reduce its own climate impact.[6] Moreover, following the passage of the Inflation Reduction Act in the United States, the continued ramping-up of carbon taxation in the European Union, China's rapid renewable energy expansion, and other climate policies around the world, it is increasingly

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[2] *See, e.g.*, Marcel Kahan & Edward B. Rock, *Corporate Governance Welfarism*, 15 J. LEGAL ANALYSIS 108 (2023) (surveying trends, many related to climate change, suggesting that "corporate governance is entering a new stage," and arguing that shareholderism, which superseded managerialism, is itself coming to an end).

[3] *See, e.g.*, Jennifer Arlen, *Evolution of Director Oversight Duties and Liability under Caremark: Using Enhanced Information-Acquisition Duties in the Public Interest* (NYU L. Econ Res. Pap. Ser., No. 23-05), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4202830; Daniel C Etsy, *Zeroing in on Net-Zero: From Soft Law to Hard Law in Corporate Climate Change Pledges*, 94 COLO. L. REV 635 (2023); Elizabeth Pollman, *Corporate Social Responsibility, ESG, and Compliance* in CAMBRIDGE HANDBOOK OF COMPLIANCE, D. Daniel Sokol & Benjamin van Rooij eds. (2021).

[4] Julie Bykowicz & Angel Au-Yenug, *Conservatives Have a New Rallying Cry: Down With ESG*, WALL STR. J. (Feb. 26, 2023), https://www.wsj.com/articles/conservatives-have-a-new-rallying-cry-down-with-esg-2ef98725. On the origins and rise of ESG, *see* Elizabeth Pollman, *The Making and Meaning of ESG*, U of Penn, Inst for Law & Econ Research Paper No. 22-23 (2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4219857.

[5] *See, e.g.*, Jeffrey Gordon, *Unbundling Climate Change Risk from ESG*, CLS BLUE SKY BLOG (Jul. 26, 2023), https://clsbluesky.law.columbia.edu/2023/07/26/unbundling-climate-change-risk-from-esg/.

[6] Denise Hearn, Cynthia Hanawalt, Lisa Sachs, *Antitrust and Sustainability: A Landscape Analysis* (Columbia Center on Sustainable Investment and Sabin Center for Climate Change Law Jul. 2023). For an extreme example, *see* Chris Morris, *Florida's CFO Blames Wokeness for Insurers Leaving the State: 'I Do Call Them the Bud Light of the Insurance Industry,'* FORTUNE (Jul. 30, 2023), https://fortune.com/2023/07/20/florida-insurance-woke-jimmy-patronis-cfo-bud-light/.

challenging to pin a company's steps to reduce emissions on any one motivating factor.[7] Is a company switching to electric vehicles to woo young employees, or due to pressure from investors, or was it a business move in the face of anticipated regulation, or anticipated litigation, or was it just cheaper?[8] Even the likes of Exxon Mobil, Saudi Aramco, and Occidental Petroleum are putting cash behind some version of the energy transition, investing in lithium production and carbon capture.[9]

Anyone who appreciates the scale of damages forecast over the next century knows that we are just beginning to experience the many ways climate change will impact the global economy. Corporations will undoubtably have a large role to play in adaptation as well as mitigation in the coming decades. But they have also played an outsized role in delivering us to this present moment of crisis.[10] In the E.U., policymakers are working to reorient corporate purpose away from stock maximization and short-termism—while simultaneously empowering shareholders and the rest of the financial system to direct investment flows to "greener" activities.[11] In contrast, the United States federal climate policy focuses on technological change and capital investment, with less interest in using finance to drive decarbonization.[12] Nevertheless, US shareholders, including pension funds, increasingly demand climate-related investment products, as well as increased regulatory oversight to fight against greenwashing.[13]

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[7] Lamar Johnson, *Climate Law Will Slash Emissions - Maybe Halving Them by 2035*, SCI. AM. (Jun. 30, 2023), https://www.scientificamerican.com/article/climate-law-will-slash-emissions-maybe-halving-them-by-2035/; *China's Non-Fossil Electricity Generation Capacity Exceeds 50% of the Total*, CARBON BRIEF DLY. BRIEF. (Jun. 13, 2023), https://www.carbonbrief.org/daily-brief/chinas-non-fossil-electricity-generation-capacity-exceeds-50-of-the-total/; Hanna Ziady, *EU Agrees to the World's Largest Carbon Border Tax*, CNN (Dec. 19, 2022), https://www.cnn.com/2022/12/19/energy/eu-carbon-border-tax/index.html.

[8] *See, e.g.*, Stuart Stone, *Younger Job Seekers Drive "Climate Quitting,"* GREENBIZ (Jan. 27, 2023), https://www.greenbiz.com/article/younger-job-seekers-drive-climate-quitting; Robinson Meyer, *'Greenwashing' Isn't About Consumers*, ATLANTIC (Jun. 29, 2022) (arguing that "When companies try to look like they're decarbonizing—or more broadly, doing right by the climate—it isn't only out of their fealty to anxious asset managers. In many instances, it's also because they want to retain their employees"). *See also* Michal Barzuza, Quinn Curtis, David Webber, *The Millennial Corporation: Strong Stakeholders, Weak Managers*, STANFORD J. L. BUS. FIN., *forthcoming* 2023.

[9] Collin Eaton, *Exxon Buys Pipeline Operator, Making Big Bet on Carbon*, WALL STR. J. (Jul. 13, 2023), https://www.wsj.com/articles/exxon-buys-pipeline-operator-making-big-bet-on-carbon-a1d0e347; Collin Eaton & Benoît Morenne, *This Arkansas Town Could Become the Epicenter of a U.S. Lithium Boom*, WALL STR. J. (Jul. 20, 2023), https://www.wsj.com/articles/this-arkansas-town-could-become-the-epicenter-of-a-u-s-lithium-boom-54ad7306; Verity Ratcliffe, *World's Largest Oil Exporter Has to Go Big on Carbon Storage*, BLOOMBERG (Aug. 11, 2022), https://www.bloomberg.com/news/articles/2022-08-11/world-s-biggest-oil-exporter-to-make-huge-bet-on-carbon-storage; *see also* Alessio M. Pacces, *Controlling Shareholders and Sustainable Corporate Governance: The Role of Dual-Class Shares*, Eur. Corp. Gov. Inst. L. Work. Pap. No. 700/2003) (arguing that "controlling shareholders can be bold, bet on innovative technologies," and collect outsized benefits of a sustainable technology taking off).

[10] *See, e.g.*, Geoff Dembicki, *Warned of 'Massive' Climate-Led Extinction, Southern Company Funded Crisis Denial Ads*, ENERGY NEWS NETW. (Jun. 8, 2022), http://energynews.us/2022/06/08/warned-of-massive-climate-led-extinction-southern-company-funded-crisis-denial-ads/.

[11] On the theory behind stock market short-termism and its link to unsustainable practices, *see* Andrew Johnston et al., *Corporate Governance for Sustainability Statement*, HARV. LAW SCH. FORUM CORP. GOV. (Jan. 7, 2020), https://corpgov.law.harvard.edu/2020/01/07/corporate-governance-for-sustainability-statement/.

[12] On the Inflation Reduction Act's focus on capital stock, *see* Skanda Amarnath, Melanie Brusseler, Daniela Gabor, Chirag Lala, & J.W. Mason, *Varieties of Derisking,* PHENOMENAL WORLD (Jun. 17, 2023), https://www.phenomenalworld.org/interviews/derisking/.

[13] *See, e.g.*, DiNapoli: NYS Pension Fund Commits $1.3 Billion to Sustainable Investment Program (Mar. 31, 2023), https://www.osc.state.ny.us/press/releases/2023/03/dinapoli-nys-pension-fund-commits-13-billion-sustainable-investment-program; Ross Kerber, *New York Pension Seek Stricter Climate Emissions Rules from Bank Portfolios*,

The next section discusses climate-related investing, breaking the topic into two: asset allocation and shareholder stewardship. This is followed by a summary of some of the significant regulatory reforms related to climate risk and reporting. The approaches of the European Union and the United States are discussed, along with their comparative impact on corporate governance. The third section focuses on the role of corporate boards and climate change. It analyzes their existing fiduciary duties in the face of climate risks, as well as how those duties might change. Finally, this chapter concludes by embracing the idea that corporate governance may be going through a reinvention—but argues that truly meeting the climate challenge would require a more radical transformation that has yet to be seen.[14]

II. CLIMATE-RELATED INVESTING

Amid increasing politization of climate change in the United States, the world's largest index fund manager, Vanguard, pulled out of the Net Zero Asset Managers initiative (NZAMi) in early 2023.[15] Vanguard CEO Tim Buckley explained the move to the press, "We don't believe that we should dictate company strategy…. It would be hubris to presume that we know the right strategy for the thousands of companies that Vanguard invests with. We just want to make sure that risks are being appropriately disclosed and that every company is playing by the rules."[16]

Buckley's statement is useful for highlighting one of the main confusions behind "ESG" investing and the financial sector's continued failure to address or respond to climate change.[17] For decades corporate governance scholars have applied the concept of "exit versus voice" to the choice shareholders must make when they no longer believe in the direction of a firm.[18] The shareholder can exit her position in the firm by selling her shares, or she can use her shareholder voice to press for change, potentially voting-in new leadership.[19] Vanguard, which places the majority of its clients' money into a broad-based index fund, is transparent about having abdicated its ability to use "exit."[20] But what is the point of asset managers if we can't rely on them to use their voice—does the system work if they do not?[21]

In the same interview explaining the withdrawal from NZAMi, Buckley pointed to Vanguard research indicating "that ESG investing does not have any advantage over broad-based

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REUTERS (Jan. 24, 2023), https://www.reuters.com/business/sustainable-business/new-york-pension-seek-stricter-climate-emissions-rules-bank-portfolios-2023-01-24/.

[14] *Cf.* Kahan & Rock, *Corporate Governance Welfarism*, *supra* note 2 at 108.

[15] Chris Flood et al., *Vanguard Chief Defends Decision to Pull Asset Manager out of Climate Alliance*, FIN. TIMES (Feb. 21, 2023), https://www.ft.com/content/9dab65dd-64c8-40c0-ae6e-fac4689dcc77.

[16] *Id.*

[17] On lack of progress toward decarbonization, *see* Lisa Sachs, Nora Mardirossian, Perrine Toledano, Finance For Zero: Redefining Financial-Sector Action to Achieve Global Climate Goals (Columbia Center for Sustainable Development 2023); *Asset Managers and Climate Change: Climate Analysis of the Sector's Portfolios, Stewardship, and Policy Influence* (Influence Map Aug. 2023). On the failure to appreciate and price the physical risks of climate change, *see generally* Madison Condon, *Market Myopia's Climate Bubble*, 1 UTAH L. REV. 63 (2022); Madison Condon, *Climate Services: The Business of Physical Risk*, ARIZ. ST J (forthcoming 2023).

[18] *See, e.g.*, Eleonora Broccardo, Oliver Hart, Luigi Zingales, *Exit Versus Voice*, 130 J. POLIT. ECON. 3101, 3102 (2022), *citing* ALBERT O. HIRSCHMAN, EXIT, VOICE, AND LOYALTY: RESPONSES TO DECLINE IN FIRMS, ORGANIZATIONS, AND STATES (1970).

[19] Benjamin Braun, *Exit, Control, and Politics: Structural Power and Corporate Governance under Asset Manager Capitalism*, 50 POLIT. SOC. 630, 638 (2022).

[20] *See generally, id.* (arguing that institutional investors abdicated the power of exit in exchange for greater accumulated control). *See also*, Condon, *Market Myopia's Climate Bubble*, *supra* note 17, at 92.

[21] Condon, *Market Myopia's Climate Bubble*, *supra* note 17, at 92.

investing."[22] Exactly which research Vanguard relied upon is unclear, but the asset manager's 2022 outperformance of its peers in Europe was attributed to its relative avoidance of ESG index strategies.[23] Its broad-based ETFs were well poised to take advantage of the year's energy crisis and fossil fuel windfalls, while competing ESG funds underweight in oil and gas suffered.[24]

But Vanguard has many fiduciaries who are retirement savers, and the entire ethos behind an index fund is to ride out market swings to reap portfolio growth in the long term.[25] The ultimate test of climate-related investing is still underway. The following section breaks "climate-related investing" into questions of asset allocation and investor stewardship. This division is mainly driven by the reality on the ground: at the large funds, the people who make decisions about where to allocate fund investments are often *not* the people who make decisions about how to vote fund shares.[26] This fact has repercussions for the future of green corporate governance.

a. Asset Allocation

Some of the most notable climate-related investing makes no claim to the ESG label. Active traders of commodities and their futures, land, real estate investment trusts, municipal bonds, and other assets, profit through their educated bets on climate trends.[27] A handful of institutional investors are reportedly buying up California farmland and drilling the deepest wells in order to get as much out the aquifer as possible before a new groundwater law comes into effect.[28] These strategies are not typically pitched as ESG investing.[29] A lengthy *Financial Times* article on hedge fund giant Citadel's in-house meteorology and forecasting team, for example, never mentions the term ESG, though they are certainly profiting off insight on climate-related trends.[30] Conversely, mainstream insurance companies—long in the business of pricing weather risk—have found themselves slapped with the ESG label as part of Florida politicians' rhetorical response to their

[22] Flood et al., *supra* note 13.
[23] The Vanguard white paper highlighted by Buckley has since been taken off the company's website. Alastair Marsh, *Vanguard Gets Extra ETF Billions After Largely Shunning ESG*, BLOOMBERG (Jan. 16, 2023), https://www.bloomberg.com/news/articles/2023-01-16/vanguard-gets-extra-etf-billions-after-esg-lite-bet-pays-off.
[24] *Id.* (additionally noting that Vanguard is both an outlier in the European context and maintains a far smaller client base than BlackRock: "Investors overwhelmingly favor ESG as a long-term trend.").
[25] Madison Condon, *Climate Change's New Ally: Big Finance*, BOSTON REV. (Jul. 28, 2020), https://www.bostonreview.net/articles/climate-activism-board-room/.
[26] Interestingly, out of the world's 45 largest asset managers in 2023, Fidelity received the lowest stewardship score based on climate-related votes, but its portfolio of assets was significantly more aligned with Paris Agreement targets than peers with better voting records. *Asset Managers and Climate Change: Climate Analysis of the Sector's Portfolios, Stewardship, and Policy Influence*, *supra* note 15. An extreme example of this divergence is the rate at which institutional investors lend out shares to short-sellers and abandon their voting rights during proxy season. *Cf.* Securities Lending Viewed through the Sustainability Lens (BlackRock Policy Spotlight Dec. 2021) (arguing that "ESG and securities lending are compatible with eachother).
[27] *See generally* Condon, *Climate Services*, *supra* note 15.
[28] Peter Waldman et al., *Groundwater Gold Rush*, BLOOMBERG (Apr. 11, 2023), https://www.bloomberg.com/graphics/2023-wall-street-speeds-california-groundwater-depletion//.
[29] Though Nuveen pitches itself as a leader in sustainable investing and both Nuveen and TIAA, its client, have made net-zero pledges. *About Nuveen*, https://www.nuveen.com/en-us/about-us/about-nuveen (last visited Aug. 1, 2023).
[30] Laurence Fletcher, *How Citadel Harnessed the Weather to Claim Hedge Fund Crown*, FIN. TIMES (Mar. 6, 2023), https://www.ft.com/content/d92e7f30-b4da-48b2-8fff-fd59fda751e1.

states' insurance crisis.[31] The slipperiness of the term "ESG" is one of the reasons it has begun to be abandoned.[32]

Investment funds that *do* claim the ESG label are often not clear about the investment theory underlying the asset allocation choices.[33] This can obscure whether the fund is designed to promote the net-zero transition, or to hedge against anticipated climate risk.[34] For this reason, regulators around the world are starting to crack down on ESG-branding.[35] Deeper scrutiny of what "ESG factors" funds are using, where these factors come from, and whether they make any sense, have begun to appear in both the academic literature and the popular press.[36] To illustrate, ESG approaches commonly use corporate-level emissions data as a factor in weighting equity portfolios, even though this metric may not be the ideal capture of transition risk.[37] Global climate policies do not treat all emissions the same—any one company's regulatory and market exposure depends upon the sectors and jurisdictions in which it operates.[38]At this moment in the transition, few large companies are likely to be purely green or dirty. And given structural changes beyond the control of many individual companies—like decarbonization of the electricity grid and supply chains—emissions today may not be the best measures of future emissions.[39] More sophisticated forward-looking assessments of companies' transition strategies try to granularly examine capital stock and capital expenditures for alignment with climate policies.[40] This strategy, however, is limited by the information corporations are required to provide under current securities disclosure laws.[41] There is movement in many jurisdictions to better align financial reporting and accounting

[31] Craig Pittman et al., *Florida CFO's Bungle Shows His 'ESG' Concern is Three-Letter B.S.*, FLA. PHOENIX (Mar. 30, 2023), https://floridaphoenix.com/2023/03/30/florida-cfos-bungle-shows-his-esg-concern-is-three-letter-b-s/.

[32] Isla Binnie, *BlackRock's Fink Says He's Stopped Using "Weaponised" Term ESG*, REUTERS (Jun. 26, 2023), https://www.reuters.com/business/environment/blackrocks-fink-says-hes-stopped-using-weaponised-term-esg-2023-06-26/.

[33] *See generally*, Ann Lipton, *ESG Investing, or, If You Cant Beat Em, Join Em*, *in* RES. HANDB. CORP. PURP. PERS. (Elizabeth Pollman & Robert B. Thompson eds., 2021); Dana Brakman Reiser & Anne M. Tucker, *Buyer Beware: Variation and Opacity in ESG and ESG Index Funds*, 41 CARDOZO L. REV. 1921 (2020).

[34] Madison Condon, *The Sprawling Problem of Financial Greenwashing*, OXF. BUS BLOG (Jul. 2021), https://blogs.law.ox.ac.uk/business-law-blog/blog/2021/07/sprawling-problem-financial-greenwashing.

[35] *See* Part III, *infra*.

[36] *See, e.g.*, Florian Berg, Kornelia Fabisik, Zacharias Sautner, Is History Repeating Itself? The (Un)Predictable Past of ESG Ratings (Eur. Corp. Governance Inst., Working Paper No. 708, 2021); Alicia Zhang, *Beware of ESG Ratings: My Cautionary Tale from the 2022 Inaugural Cornell ESG Conference*, BU IMPACT MEAS. ALLOC. PROGRAM (Sep. 2022), https://www.bu.edu/imap/2022/09/16/esg-ratings/; Steve Johnson, *Companies with Good ESG Scores Pollute as Much as Low-Rated Rivals*, FIN. TIMES (Jul. 31, 2023), https://www.ft.com/content/b9582d62-cc6f-4b76-b0f9-5b37cf15dce4; Andreas Engert, ESG Ratings—Guiding a Movement in Search for Itself (Eur. Corp. Governance Inst., Law Working Paper No. 727, 2022); Marco Dell'Erba & Michele Doronzo, *Sustainability Gatekeepers: ESG Ratings and Data Providers*, 25 U. PENN. J. BUS. L. 355 (2023).

[37] *See generally* Madison Condon, *What's Scope 3 Good For?*, 56 U.C. DAVIS L. REV 1921 (2023).

[38] *Id.* at 1947; *see also* 2º Investing Initiative, *Please Mr. Postman! Ten Messages on Portfolio Alignment & Implied Temperature Rise* (Discussion Paper Jul. 2021), https://2degrees-investing.org/resource/hello-mr-postman-10-messages-on-portfolio-alignment-itr/.

[39] Condon, *What's Scope 3 Good For?*, *supra* note 35, at 1945.

[40] Ilmi Granoff, *The Tragedy on the Financial Horizon is Closer Than You Think*, COLUM. CLIM. L. BLOG (May 4, 2023), https://blogs.law.columbia.edu/climatechange/2023/05/04/the-tragedy-on-the-financial-horizon-is-closer-than-you-think/ (surveying public sector methodologies for assessing transition risk through analysis of capital planning). *See also* Giacomo Bressan, Irene Monasterolo, Stefano Battiston, *Sustainable Investing and Climate Transition Risk: A Portfolio Rebalancing Approach*, 48 J. PORTF. MANAG. 165 (Sep. 2022) (using "Climate Policy Relevant Sectors" and mapping of assets at the NAIC-code level).

[41] Barbara Davidson, Rob Schwerk, *Still Flying Blind: The Absence of Climate Risk in Financial Reporting*, CARBON TRACKER INITIAT. (Oct. 2022); Tyler Winterich, *Accounting for Climate Risk*, 41 REV. BANK. FIN. L 758 (2022).

standards with sustainability and climate risk disclosure, but methodological and political challenges remain.[42]

How to assess a corporation's potential exposure to transition risk is bound up with the enormous question of how to define a "green" asset. This question, which turns out to be harder to answer than most first imagine, is being worked out in various ways not just by ESG funds attempting to avoid greenwashing, but by central bankers as they ponder using their tools to hasten the transition.[43] Regulators in the US and the EU are themselves in the process of defining what is "green" in order to properly allocate tax credits, border tariffs, government contracts, and more.[44] As with many regulations, some companies are poised to win and other will lose, depending on the settled definition.[45] Because there are arguably many ways to design the transition, there are necessarily judgment calls and tradeoffs that need to be made when determining what is green – it is not purely a matter of adding up annual lifecycle emissions.[46] That is, it is an unavoidably political question.[47]

Many asset managers rely on ESG ratings supplied by third parties, like MSCI and Refinitiv—data providers that, until recently, had received little attention despite their fundamental role in the present system of equities allocation.[48] The rising scrutiny of ESG investing and the decisions that go into assembling an "ESG index," are intertwined with the broader questions raised by Adriana Robertson's scholarship: is there really a difference between "active" and "passive" investing, or does "passive" investing simply outsource investment decisions to the index assembler—often

[42] Sheryl Tian Tong Lee & Alastair Marsh, *Biden Law Feeds Writedown Call at $50 Billion Green Investor*, BLOOM. L. (Apr. 12, 2023), https://www.bloomberglaw.com/bloomberglawnews/esg/XGSHU8K000000?bna_news_filter=esg#jcite (noting that "the International Accounting Standards Board started exploring ways to have financial statements better reflect climate-related risks").

[43] Ravi Menon & Sabine Mauderer, *Enhancing Market Transparency in Green Transition Finance* (Network for Greening the Financial System, Apr. 2022) (reporting survey results indicating that "most central banks and financial supervisors are either using or considering the use of taxonomies," but noting challenges).

[44] David Iaconangelo, *E.U.'s "Green" Hydrogen Rules May Shape American Industry*, E&E NEWS, (Jul. 7, 2023) https://www.eenews.net/articles/e-u-s-green-hydrogen-rules-may-shape-american-industry/; Emily Pontecorvo, *The Fight to Define "green Hydrogen" Could Determine America's Emissions Future*, GRIST, https://grist.org/energy/green-hydrogen-tax-credit-ira/; Condon, *What's Scope 3 Good For?*, *supra* note 35.

[45] *See, e.g.*, Jeff St. John, *The Great "Green Hydrogen" Battle*, CANARY MEDIA (Mar. 28, 2023), https://www.canarymedia.com/articles/hydrogen/the-great-green-hydrogen-battle (describing how a coalition of cleaner hydrogen companies submitted comments arguing for stricter accounting standards, while oil and gas companies producing dirtier hydrogen argued that looser carbon accounting standards were needed to foster industry growth).

[46] *See, e.g.*, Thea Riofrancos, Alissa Kendall, Kristi K. Dayemo, Matthew Haugen, Kira McDonald, Batul Hassan, Margaret Slattery, and Xan Lillehei, *Achieving Zero Emissions with More Mobility and Less Mining*, CLIMATE AND COMMUNITY PROJECT (2023).

[47] This is not to say that because these choices they are political they should not be made. *Compare* Stefan Kooths, *EU Taxonomy: Mission Impossible*, 19 ECON. VOICE 243 (De Gruyter Dec. 2022) (arguing along Hayekian lines that a market economy cannot be replaced by a set of bureaucratic indicators); Max Krahé, *For Sustainable Finance to Work, We Will Need Central Planning*, FIN. TIMES (Jul. 11, 2021), https://www.ft.com/content/54237547-4e83-471c-8dd1-8a8dcebc0382 (arguing that the price mechanism cannot transform several interlocking economic production systems simultaneously at a fast enough speed).

[48] *But see* Johannes Petry, Jan Fichtner, Eelke Heemskerk, *Steering Capital: The Growing Private Authority of Index Providers in the Age of Passive Asset Management*, 28 REV. INT. POLIT. ECON. 152 (2021). *See also* Sonakshi Agrawal, Lisa Yao Lio, Shivaram Rajgopal, *ESG Ratings of ESG Index Providers*, (SSRN working paper May 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4468531 (questioning whether changes made to MSCI ESG ratings reflect changes in underlying "ESG" fundamentals).

entities without clear fiduciary duties?[49] Some asset managers tout their active role in working with the indexer to bring a "green" fund to market.[50] These ESG funds are likely to cost more, and a chicken-and-egg argument has developed over whether managers offer ESG funds because they can charge higher fees—or instead they charge higher fees because in-demand ESG funds require more oversight.[51]

When it comes to impact funds that claim to be actively supporting decarbonization, rather than hedging against it, there is much unresolved debate over the right way to use fund construction, *i.e.*, asset allocation, in service to net zero goals. Critics have long argued that divestment simply abdicates control over an emitting company without any real change in the real economy.[52] By extension, many question whether the ESG approach of index *tilting*—underweighting carbon-intensive assets while overweighting low-carbon assets—in fact drives any decarbonization.[53] This divestment problem occurs at multiple levels. Under current U.S. rules, a public company that sells off carbon-intensive assets to a private company looks greener to the eyes of an investor, but total emissions remain the same.[54] Just as this shifting of external corporate boundaries can obscure ongoing emissions, so too can the shifting of internal corporate boundaries. Investors hoping to limit their funding to particular "green" projects through the corporate bond market, for example, have no guarantee that their money isn't going to fund a corporation's other non-green activities.[55]

When it comes to impact, some question whether the price of public equities are even the right object of focus—just how much do share price changes today influence capital expenditures on long term projects?[56] Benjamin Braun points out that the largest oil companies have capital reserves large enough to self-fund, they are not beholden to the credit markets and whatever link they hold with the markets' assessment of equity risk.[57] At root, is the question whether exit still serves as the most effective tool of disciplining corporate management, or whether in the age of

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[49] *See generally*, Adriana Z. Robertson, *Passive in Name Only: Delegated Management and "Index" Investing*, 36 YALE J. REGUL. 795 (2019); Paul G. Mahoney & Adriana Robertson, *Advisers by Another Name*, 11 HARV. BUS. L. REV. 311 (2021).

[50] *See, e.g.*, *FTSE Russell Index Selected by BlackRock for First Climate Risk-Adjusted Government Bond ETF*, FTSE RUSSELL (Oct. 5, 2020), https://www.ftserussell.com/press/ftse-russell-index-selected-blackrock-first-climate-risk-adjusted-government-bond-etf; James Lord, *BlackRock Debuts Climate-Conscious Global Real Estate ETF*, ETF STRATEGY (Nov. 21, 2022), https://www.etfstrategy.com/blackrock-debuts-environmentally-aware-global-real-estate-etf-10339/.

[51] *See, e.g.*, Bernard S. Sharfman, *Opportunism in the Shareholder Voting and Engagement of the 'Big Three' Investment Advisers to Index Funds*, 48 J. CORP. L. 463, 487 (2023); Shakked Noy, *Investors' Willingness to Pay for ESG Funds*, NBER DIGEST (Jan. 2023), *citing* Malcolm Baker, Mark L. Egan & Suproteem K. Sarkar, How Do Investors Value ESG? (NBER Work. Pap. 30708, Dec. 2022), https://www.nber.org/papers/w30708.

[52] Broccardo et al., *supra* note 16; *See generally*, Paul Brest, Ronald Gilson, Mark Wolfson, *How Investors Can (and Can't) Create Social Value*, 44 J. CORP. L. 205 (2018); Paul Rose, *Public Wealth Maximization: A New Framework for Fiduciary Duties in Public Funds*, 3 ILL. L. REV. 891 (2018).

[53] Brest et al., *supra* note 50.

[54] Alperen A. Gözlügöl & Wolf-Georg Ringe, *Private Companies: The Missing Link on the Path to Net Zero*, 22 J. CORP. L. STUD. 887 (2022). The EU's new CSRD attempts to reduce some of this leakage by looping private corporations into reporting and disclosure. The issue remains that dirty assets may be bought by investors with different motivations and time horizons than climate impact funds.

[55] Sebastian Steuer & Tobias H Tröger, *The Role of Disclosure in Green Finance*, 8 J. FIN. REGUL. 1, 15 (2022) (pointing to the challenges of "ring-fencing" green bonds).

[56] Condon, *Market Myopia's Climate Bubble*, *supra* note 17 at 80-82 (discussing the connection).

[57] Braun, *supra* note 19 at 5-6.

asset management, corporate directors and managers are more responsive to voice, i.e. the threat of losing their job.[58]

b. Investor Stewardship

Starting as far back as the 1970s, there have been arguments that institutional investors should use their concentrated shareholder power to press for corporate social responsibility—what management guru Peter Drucker called "pension fund socialism".[59] After modern portfolio theory took hold, these ever-larger institutional funds diversified their assets broadly across the whole (investable) economy.[60] Proponents of the "universal owner" theory argued, therefore, that not only should funds be managed for the long-term, but they should be managed with the growth of the fund—rather than individual corporate stocks—in mind.[61] Encouraging one corporation to simply externalize harms onto other players in the economy, it was argued, did the fund little long-term good.[62] While traditional investment theory held that investors should always be "seeking alpha," or the individual asset that would give them returns over and above the market, universal owners were large enough to affect beta, the unhedgeable risk affecting the entire market portfolio of assets.[63]

This author was among the first to apply the universal owner concept to climate change, arguing that returns generated from investing in fossil fuel companies were grossly outweighed by future portfolio losses from physical climate impacts.[64] In 2019, it seemed like the world's largest institutional investors might be willing to take up this mantle, with climate-related shareholder resolutions receiving majority support against the opposition of fossil fuel executives.[65] Jeffrey Gordon termed this investor outlook "systematic stewardship," emphasizing that climate change is a systematic risk that cannot be hedged away.[66] The systematic stewardship mandate, while controversial, has been explicitly endorsed by some individual institutional investors along with the Net-Zero Asset Owner Alliance and the UN Principles of Responsible Investment.[67]

Theoretical, practical, and legal objections to the universal owner argument abound. Skeptics point out that asset managers' economies of scale and index-based investing means that they have

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[58] *Id.*

[59] PETER F. DRUCKER, THE UNSEEN REVOLUTION: HOW PENSION FUND SOCIALISM CAME TO AMERICA (1976).

[60] Robert G. Hansen & John R. Lott Jr., *Externalities and Corporate Objectives in a World with Diversified Shareholder/Consumers*, 31 J. FIN. & QUANTITATIVE ANALYSIS 43, 47–49 (1996).

[61] ROBERT MONKS & NELL MINOW, WATCHING THE WATCHERS: CORPORATE GOVERNANCE IN THE 21ST CENTURY 121 (1996).

[62] RICK ALEXANDER, BENEFIT CORPORATION LAW AND GOVERNANCE: PURSUING PROFIT WITH PURPOSE (2017).

[63] JON LUKOMNIK & JAMES P. HAWLEY, MOVING BEYOND MODERN PORTFOLIO THEORY: INVESTING THAT MATTERS (2021).

[64] Madison Condon, *Externalities and the Common Owner*, 95 WASH. LAW REV. 1 (2020). *See also* Ellen Quigley, Universal Ownership in Practice: A Practical Investment Framework for Asset Owners, (working paper GRAFSI Conference 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3638217.

[65] Condon, *Externalities and the Common Owner*, *supra* note 64.

[66] Jeffrey N. Gordon, *Systematic Stewardship*, 47 J. CORP. L. 627 (2022); *See also,* Condon, *Externalities and the Common Owner*, *supra* note 64 at 17-18.

[67] The Future of Investor Engagement: A Call for Systematic Stewardship to Address Systemic Climate Risk, United Nations Environment Finance Initiative (2022), https://www.unepfi.org/industries/the-future-of-investor-engagement-a-call-for-systematic-stewardship-to-address-systemic-climate-risk/.

limited resources for engaging with individual companies on decarbonization.[68] Because asset managers offering mutual funds typically make money by expanding the total value of assets under management today, they have more incentive to keep fees low than to actively steward the long-term value of the portfolio.[69]

Some have critiqued the economics of systematic stewardship, arguing that sacrificing fossil-fuel profits would not be worth the avoided future damages to the fund.[70] However, a board of professional actuaries in the UK recently reviewed a set of climate scenarios frequently relied upon by the financial sector and found them to be "significantly underestimating climate risk."[71] Their own risk-based approach predicts "50% GDP destruction somewhere between 2070 and 2090."[72] The actuaries note this expected loss is within the investment horizon of retirement funds today: "This analysis provides a compelling logic for net zero becoming part of fiduciary duty, as if we do not mitigate climate change, it will be exceptionally challenging to provide financial returns."[73]

Arguments against the portfolio-maximizing mandate point out that while this approach may make sense for asset owners, like pension funds and insurers—asset managers have clients with varying exposure to the market. A retail investor that has selected a fossils-heavy fund is unlikely to support universal owner measures that maximizes the market portfolio at the expense of her selected corporate equities.[74] While there are many proposals for solving this client-base problem, of note is the increasing adoption of "pass-through" voting and other policies enabling clients to tell asset managers how they would like their shares to be voted. BlackRock, Vanguard, and other asset managers have rolled out proxy voting choice options to their institutional clients, and recently extended them to retail investors in select broad-based funds.[75] Ann Lipton has surveyed the host of unresolved corporate law and governance questions raised by the advent of pass-through.[76] In particular, she points out that giving clients voter choice does not deflect the legal question of whether fund managers must maximize the *wealth* or *welfare* of their fiduciaries—

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[68] *See e.g.*, Anna Christie, *The Agency Costs of Sustainable Capitalism*, 55 U.C. DAVIS L. REV. 875, 901 (2021); Marcel Kahan & Edward B. Rock, *Systemic Stewardship with Tradeoffs* (NYU Law and Economics Research Paper No. 22-01 2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3974697.

[69] Christie, *supra* note 68 at 901, citing Lucian Bebchuk & Scott Hirst, *Index Funds and The Future of Corporate Governance: Theory, Evidence, and Policy*, 119 COLUM. L. REV. 2029 (2019); Ronald J Gilson & Jeffrey N Gordon, *The Agency Costs of Agency Capitalism: Activist Investors and the Revaluation of Governance Rights*, 113 COLUM. L. REV 863 (2013); Braun, *Exit, Control, and Politics*, *supra* note 19.

[70] Tallarita, *supra* note 66. The author will simply point to the probability of an AMOC breakdown this century, *see* Part V, *infra*, and leave it at that, as there is no room for a thorough above-the-line discussion of climate economics. *See* Madison Condon, *Damage Functions (Or Why I Am Mad at Economists)*, L. POLIT. ECON. BLOG (Jun. 13, 2023), https://lpeproject.org/blog/damage-functions-economics-climate-science/. *See also* Madison Condon, *Institutional Investor Industrial Policy*, working paper on file with author.

[71] SANDY TRUST, SANJAY JOSHI, TIM LENTON, JACK OLIVER, EMPEROR'S NEW CLIMATE SCENARIOS 5 (Inst. Fac. Actuar. & Uni. Exeter July 2023) ("It's as if we are modelling the scenario of the Titanic hitting an iceberg but excluding from the impacts the possibility that the ship could sink, with two thirds of the souls on board perishing").

[72] Id. at 26.

[73] *Id.*

[74] Condon, *Externalities and the Common Owner*, *supra* note 62; *see also* Dorothy S. Lund & Adriana Robertson, *Giant Asset Managers, the Big Three, and Index Investing*, Center for Law and Social Science Research Paper Series No. 23-13 (Mar. 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4406204.

[75] Ann Lipton, *BlackRock and Voting Choice*, BUS. L. PROF. BLOG (Aug. 5, 2023), https://lawprofessors.typepad.com/business_law/2023/08/blackrock-and-voting-choice.html.

[76] Ann Lipton, *Power Concedes Nothing without a Demand*, BUS. L. PROF BLOG (Mar. 5, 2022), https://lawprofessors.typepad.com/business_law/2020/07/judicial-primacy.html.

BlackRock asserts it will not vote shares in a way it believes will harm the fund, yet offers proxy voting options that appear to advertise a willingness for sacrificed returns.[77]

The universal owner theory avoids pondering the welfare of shareholders as individuals, instead focusing on wealth as measured by portfolio returns.[78] But it brings a similar fiduciary duty dilemma down to the level of corporate directors and managers: should "shareholder primacy" be interpreted as a mandate to maximize share price or to do what your shareholders want?[79] In Delaware, a shareholder plaintiff is asking the Court of Chancery to address this question.[80] A complaint against the officers and directors of Meta argues that Facebook was turned into a tool of share-price maximization at the expense of the economy, and therefore its broadly diversified shareholders.[81] Regardless of how the case is decided, the fundamental leniency of Delaware's business judgment rule remains.[82] Judicial reluctance to scrutinize business decisions made in good faith means that managers are generally protected from liability so long as they can provide "any rational business purpose" behind their actions.[83] In a world where the transition is clear, but its pace is uncertain, choices to decarbonize are becoming increasingly defensible from a business perspective.

c. Future of Finance for Net-Zero?

NZAMi, the investor group exited by Vanguard in early 2023, asked signatories to "implement a stewardship and engagement strategy, with a clear escalation and voting policy, that is consistent with our ambition for all assets under management to achieve net zero emissions by 2050 or sooner."[84] The theme of the 2023 proxy season appeared to be in line with Vanguard's position; institutional investors that in previous years had been willing to vote against management on issues

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[77] Lipton, *supra* note 75 (pointing to the option to select Catholic and Socially Responsible Investing voting policies offered by proxy advisory firms ISS and Glass Lewis).
[78] *Cf.* Oliver Hart & Luigi Zingales, *The New Corporate Governance* (NBER Work. Pap. 29975 Apr. 2022), https://www.nber.org/papers/w29975 (arguing for a shareholder welfare maximization standard).
[79] Condon, *Climate Change's New Ally*, *supra* note 23. While Delaware courts often characterize duties as running "to the corporation and its shareholders," Ann Lipton points out that Delaware "decisions have now explicitly held that the duty to maximize shareholder wealth may include the duty to end a firm's life." Ann Lipton, *Every Billionaire is a Policy Failure* (Tulane Pub. L. Res. Paper No. 23-6, May 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4442029 (equating the upholding of share price primacy as "vindicating the rights of an abstract notion of shareholder").
[80] McRitchie v. Zuckerberg, Del. Ch., No. 2022-0980 (Compl.). *Cf.* Kahan & Rock, *supra* note 66 (arguing that under Delaware caselaw it is clear that corporate management has a duty to the corporation over and above shareholders, and that duty is interpreted as maximizing the firms' stock value); *but see* Jeffrey Gordon, *Systematic Stewardship: It's Up to the Shareholders*, Colum. L. Econ. Working Paper No. 666 (2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4521822 (surveying Delaware cases where directors were not held to a duty of single-firm maximization).
[81] This particular case has the additional potential conflict between concentrated and diversified shareholders in that Meta's CEO, Mark Zuckerberg, retains outsized voting rights through the company's dual class share structure. *Id.* ("For this controlling subset, maximizing the value of the Company by undermining the global economy is financially beneficial."). *See also* Emily Stewart, *Mark Zuckerberg is Essentially Untouchable at Facebook*, VOX (Nov. 19, 2018) https://www.vox.com/technology/2018/11/19/18099011/mark-zuckerberg-facebook-stock-nyt-wsj.
[82] Under the BJR, the court "begins with the presumption that in making a business decision the directors of a corporation acted… in the honest belief that the action taken was in the best interests of the company." eBay Domestic Holdings, Inc. v. Newmark, 16 A.3d 1, 36 (Del. Ch. 2010) (*quoting* Unitrin, Inc. v. Am. Gen. Corp., 651 A.2d 1361, 1373 (Del. 1995)).
[83] Unocal Corp. v. Mesa Petroleum Co., 493 A.2d 946, 954 (Del. 1985).
[84] *Commitment – The Net Zero Asset Managers Initiative*, https://www.netzeroassetmanagers.org/commitment/.

related to risk disclosure were mostly unwilling to force the adoption of concrete net-zero transition plans and targets.[85] Vote counts alone, however, mask the large number of climate-related resolutions that were withdrawn—typically a signal that management has appeased activist investor demands.[86] Indeed, "climate agreements" are on the rise, with more than 70 examples of institutional investors, primarily pension funds, directly negotiating specific transition plan commitments from companies.[87]

However, if institutional investors are stewarding the economy to a low-carbon future, they are being slow about it. When writing about the potential of universal ownership in 2020, this author identified three mechanisms asset managers were using to reduce emissions: changing executive pay incentives, stopping corporate lobbying against climate regulation, and pressing for climate disclosure, mainly through the proxy process.[88] Several years later, efforts on these fronts have progressed unevenly.

In the United States, the trend of amending executive pay incentives has greatly increased, though many point out that the incentives to decarbonize are often dwarfed by other perks to maximize profit.[89] Shell, for example, widely touted its amendments to tie management incentives to net zero targets—goals which it is now abandoning.[90] While scholars argue about the utility and desirability of amending executive pay, evidence suggests that when designed correctly, the pay incentives do result in emissions drops.[91] While some argue that adding additional incentives beyond profit maximization would enable inefficiency, or self-dealing, it is worth noting that for a long time in the oil and gas industry it was thought that tying executive incentives only to share price would make CEOs short-termist. Because investors do sometimes agree that the markets are bad at valuing the long-term, incentives were designed to encourage prioritizing growth and investing in reserves instead of simply maximizing the share-price.[92]

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[85] Lindsey Stewart, *2023 Proxy-Voting Season: Volume of Climate Resolutions Stays High*, MORNINGSTAR (JUL. 5, 2023), https://www.morningstar.com/sustainable-investing/2023-proxy-voting-season-volume-climate-resolutions-stays-high; Mike Scott, *ESG Watch: Activists Notched up Climate Wins, Despite Rocky Results Season*, REUTERS (Jul. 4, 2023), https://www.reuters.com/sustainability/boards-policy-regulation/esg-watch-activists-notched-up-climate-wins-despite-rocky-results-season-2023-07-04/ (noting that Climate Action 100+ members failed to support targets).

[86] Virginia E. Harper Ho, *Risk-Related Activism: The Business Case for Monitoring Nonfinancial Risk*, 41 J CORP L 647, 689 (2016); Rob Berridge, *Comment: Why Climate Agreements Are the Untold Story of the 2023 Proxy Season*, REUTERS (Jun. 28, 2023), https://www.reuters.com/sustainability/boards-policy-regulation/comment-why-climate-agreements-are-untold-story-2023-proxy-season-2023-06-28/.

[87] Berridge, *supra* note 83.

[88] Condon, *Externalities and the Common Owner*, *supra* note 62.

[89] David I. Walker, *The Economic (In) Significance of Executive Pay ESG Incentives*, 27 STAN. J. L. BUS. & FIN. 318 (2022); *see also* Lucian A. Bebchuk & Roberto Tallarita, *The Perils and Questionable Promise of ESG-Based Compensation*, 48 J. CORP. L. 37 (2022). Merel Spierings, *Linking Executive Compensation to ESG Performance*, HARV. LAW SCH. FORUM CORP. GOV. (Nov. 27, 2022), https://corpgov.law.harvard.edu/2022/11/27/linking-executive-compensation-to-esg-performance/ (reporting that 19% of the S&P 500 had linked executive pay to climate targets).

[90] *Shell to Link Executive Pay More Closely to Group's Climate Performance*, REUTERS (Mar. 29, 2021), https://www.reuters.com/article/us-climate-change-shell-pay-idUSKBN2BL12J.

[91] Shira Cohen Igor Kadach, Gaizka Ormazabal, *Executive Compensation Tied to ESG Performance: International Evidence*, 61 J. ACCOUNT. RES. 805 (2023); Jeffrey Tomich, *Utility CEOs See Green as Pay-for-Climate Goes Mainstream*, E&E NEWS (May 17, 2023), https://www.eenews.net/articles/utility-ceos-see-green-as-pay-for-climate-goes-mainstream/.

[92] Carbon Tracker Initiative, Groundhog Pay: How Executive Incentives Trap Companies in A Loop of Fossil Growth 18 (2020) (finding that 90% of fossil companies reward executives for production or reserves growth and recommending that "growth neutral" metrics be used instead, such as "return on average capital employed"). *Cf. BlackRock Fund Puts Rich-World Water Crisis on Investing Agenda*, BLOOMBERG.COM (Oct. 7, 2022),

Investor pressure for climate risk disclosure from companies became so pervasive that the public company holdouts are notable rarities. Berkshire Hathaway, for example, has been able to resist institutional investor pressure disclose risks mainly due to Warren Buffett's ownership of dual-class stock giving him 32% of the shareholder vote.[93] But for most companies, shareholders have moved to request more expansive disclosures, or concrete climate targets. There is growing attention on transition plans; a majority of Exxon investors requested an audited report of financial statement impacts under a net-zero transition.[94] And supply chains are coming under greater scrutiny.[95] Institutional investors have made it clear that they are willing to cast their vote against directors on climate change-related grounds.[96]

Like executive pay metrics and shareholder votes, the climate lobbying record of institutional investors shows a mixed picture of progress. In 2021, many fossil-intensive corporations, including two airlines, were the targets of successful shareholder proxy campaigns related to climate lobbying.[97] Some investors are increasing pressure on corporations to not only cease from lobbying against climate policy, but to actively align their lobbying with the goals of the Paris Agreement.[98] Nevertheless, climate policy remains a contentious political issue, particularly in the United States, with institutional investors themselves called out for their lobbying activities.[99]

When it comes to decarbonization of the economy, antitrust law, rather than corporate law, may be a concern of potentially greater significance.[100] As discussed, low-fee index funds have limited resources devoted to analyzing the real economy. BlackRock's Larry Fink may have opinions about the future of blue hydrogen—due, no doubt, to his interest in directing investors' money toward projects—but Vanguard's Buckley does not, his paycheck comes from selling

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https://www.bloomberg.com/news/articles/2022-10-07/blackrock-fund-is-putting-a-rich-world-water-crisis-on-the-investing-agenda (reporting "the fund reflects the growing concerns [that global water scarcity] may not be fully priced into the market" and quoting a BlackRock fund manager pitching that "generally speaking, the market doesn't tend to be all that good at accurately pricing in this long-term risk.").

[93] Peter Eavis, *Warren Buffett Faces Renewed Climate Change Challenge by Investors*, N. Y. TIMES (Apr. 25, 2022), https://www.nytimes.com/2022/04/25/business/energy-environment/warren-buffett-climate-change.html; *47% of Berkshire Hathaway's Independent Shareholders Support Resolution to Address Emissions Associated With Its Underwriting, Investing Activities*, YOU SOW (May 5, 2022), https://www.asyousow.org/press-releases/2022/5/5/berkshire-hathaways-independent-shareholders-support-resolution-climate-change.

[94] Kevin Crowley, *Exxon Investors Back IEA Net-Zero Reporting in Surprise Vote*, BLOOMBERG (May 25, 2022), https://news.bloomberglaw.com/esg/exxon-investors-back-more-climate-disclosures-in-surprise-vote.

[95] Dieter Holger, *Costco Shareholder Vote Signals Focus on Supply-Chain Emissions*, WALL STR. J. (Jan. 26, 2022), https://www.wsj.com/articles/costco-shareholder-vote-signals-focus-on-supply-chain-emissions-11643194803.

[96] Reena Aggarwal, Sandeep Dahiya, Unit Yilmaz, *Why Do Investors Vote Against Corporate Directors?* (ECGI Fin. Work. Pap. 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4502527; Dieter Holger, *More Investors Vote Against Corporate Directors Over Climate Change*, WALL STR. J. (Jul. 21, 2022), https://www.wsj.com/articles/more-investors-vote-against-corporate-directors-over-climate-change-11658397600.

[97] *Shareholders Approve a Climate Lobbying Proposal at Delta*, CLIMATE ACTION 100+ (Jun. 17, 2021), https://www.climateaction100.org/news/shareholders-approve-a-climate-lobbying-proposal-at-delta/

[98] Simon Jessop, *Investors Launch Global Standard for Corporate Climate Lobbying,* REUTERS (Mar. 14, 2022), https://www.reuters.com/business/sustainable-business/investors-launch-global-standard-corporate-climate-lobbying-2022-03-14/.

[99] Hannah Smith, *Asset Manager Under Fire for Ties with 'Anti-ESG' Group*, ESG CLARITY (Aug. 23, 2022), https://esgclarity.com/asset-manager-under-fire-for-ties-with-anti-esg-group/.

[100] Hearn et al., *supra* note 6; Amelia Miazad, *From Zero-Sum to Net-Zero Antitrust*, 56 UC DAVIS. L. REV. 2067, 2100-01 (2023) (noting that the U.S. is an outlier in not taking steps to amend antitrust law to accommodate collaboration for climate matters, and arguing this poses challenges for institutional investor collaboration).

"passive" products.[101] One way to facilitate transition planning at low-cost, and systemically across all assets and industries, is through collaboration—indeed some of the first climate-focused investor coalitions were billed as a resource-sharing forums.[102] As the stakes are raised, however, the prospect of institutional investors working together comes with both benefits and risks—particularly in the United States.[103] Non-financial industry collaborations have so far attracted less political attention than climate coalitions formed by insurers and banks. However, unlike other countries, the U.S. has not taken steps to protect "green" collaboration from traditional competition law.[104] As companies are increasingly encouraged to adopt voluntary pledges, associations, and standards, legal conflicts may arise.[105]

The regulatory reforms discussed in the next section are likely to accelerate the pace of the private sector transition to net zero. But there are unresolved disagreements about the right way to pursue the transition using the tools of corporate and financial law. Disruptions in energy supplies due to the war in Ukraine resulted in oil and gas companies collecting "windfall profits" in 2022.[106] Many were outraged when those profits were returned to shareholders through share buybacks rather than invested in renewable energy projects.[107] But there was a time when climate-minded shareholders demanded buybacks—preferring to direct the capital to other projects rather than the business of oil and gas.[108] Should shareholders endeavor to turn dirty companies green, or get out of a dying industry while they can? As these questions are debated, regulators work to give investors the transparency they need to make these decisions.

III. REGULATORY CONCERNS

When it comes to the many forces shaping climate investing and "green" corporate governance, demarcating between private and public, voluntary and nonvoluntary, is increasingly

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[101] *BlackRock Raises $4.5 Bln for Climate-Focused Infrastructure Fund*, REUTERS (Oct. 26, 2022), https://www.reuters.com/business/sustainable-business/blackrock-raises-45-bln-climate-focused-infrastructure-fund-2022-10-25/. *Cf.* Jill E Fisch, Asaf Hamdani, Steven Davidoff Solomon, *The New Titans of Wall Street: A Theoretical Framework for Passive Investors*, 168 U. PA. L. REV. 17, 29–30 (2019) (noting that in 2017, BlackRock made 50% of its fees from active products, despite the far larger amount of money (two-third of total assets) invested in passive products). *See also* Justin Baer, *BlackRock Now Manages Over $10 Trillion in Assets*, WALL STR. J. (Jan. 14, 2022), https://www.wsj.com/articles/blackrock-now-manages-over-10-trillion-in-assets-11642162013 (reporting that active funds account for "almost half of the manager's fees" while making up a quarter of its assets).

[102] Condon, *Externalities and the Common Owner*, *supra* note 62. *Cf.* Jill E. Fisch & Simone M. Sepe, *Shareholder Collaboration*, 98 TEX. L. REV. 863, 918-19 (2020) (describing the rising collaboration between corporate insiders and institutional investors, and noting that this collaboration could aid the cross-firm collusion alleged under common ownership arguments).

[103] *See generally*, Wolf-Georg Ringe, *Investor Empowerment for Sustainability*, 74 REV. ECON. 21 (2023) (arguing that the law should enable collaboration on climate goals and that legal barriers to shareholder coordination should be removed); Miazad, *Net-Zero Antitrust*, *supra* note 100.

[104] Hearn et al., *supra* note 6.

[105] *Id.*; Miazad, *Net Zero Antitrust*, *supra* note 97.

[106] Will Mathis, *BP Joins Big Oil Profit Bonanza With Further Share Buybacks*, BLOOMBERG (Nov. 1, 2022), https://www.bloomberg.com/news/articles/2022-11-01/bp-joins-big-oil-profit-bonanza-with-additional-share-buybacks.

[107] Jasper Jolly, *Oil Firms Seem More Interested in Shareholders than Net Zero*, THE GUARDIAN (Aug. 2, 2022), https://www.theguardian.com/business/2022/aug/02/oil-firms-seem-more-interested-in-shareholders-than-net-zero.

[108] Natasha Lamb, Letter to Chevron Shareholders to Vote "For" Proposal 9, (May 11, 2016); ExxonMobil Shareholder Resolution, Item 10—Increase Capital Distributions (2016), https://www.sec.gov/Archives/edgar/data/34088/000119312516539460/d14941ddef14a.htm.

difficult.[109] This is part of what makes "ESG" a target for politicization.[110] Securities and other financial regulators are largely working to legalize disclosure standards that were developed and adopted by the private sector themselves.[111] Because this voluntary system is well underway, the impact of anticipated legal attacks to forthcoming ESG and climate risk rules in the United States may be muted.[112]

The European Union's Corporate Sustainability Reporting Directive (CSRD), set to be implemented in 2024, substantially reinvents the EU's sustainability and climate-related reporting requirements.[113] Large European companies will be required to disclose net-zero transition plans as well as their greenhouse gas emissions—including "Scope 3" supply-chain emissions.[114] The CSRD is just one of a set of regulations aimed at "greening" corporations and the financial system, described by one reporter as, "reinventing the rules of capitalism."[115] A follow-up rule, the Corporate Sustainability Due Diligence Directive (CSDDD) is currently being negotiated.[116] The CSDDD would impose detailed due diligence requirements on reporting companies, including business plan and supply chain alignment with net zero targets. If adopted, the directive would require the remuneration of both directors and managers be tied to these targets.[117]

Many CSRD reporting rules apply not only to large European companies, but to any foreign company with more than €150 million in EU-based revenue.[118] Disclosure requirements are expected to reach more than 10,000 foreign companies, including more than 3,000 listed in the US.[119] Companies covered by the CSRD will be expected to follow the European Sustainability Reporting Standards (ESRS) presently under development by the European Financial Reporting

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[109] *See, e.g.,* Miazad, *From Zero-Sum to Net-Zero Antitrust*, supra note 100 at 2069-71.

[110] *See, e.g.,* Braun, *Exit, Control, and Politics*, *supra* note 19; Dorothy S Lund, *Asset Managers as Regulators*, 171 UNIV. PA. L. REV. 77 (2022).

[111] *See, e.g.*, Condon, *What's Scope 3 Good For?*, *supra* note 35. (pointing out that federal purchasing rules require climate targets to be certified by the Science Based Targets initiative, a non-governmental non-profit primarily funded by the foundations of Amazon and Ikea).

[112] Richard Vanderford, *SEC's Climate-Disclosure Rule Isn't Here, but It May as Well Be, Many Businesses Say*, WALL STR. J. (Apr. 25, 2023), https://www.wsj.com/articles/secs-climate-disclosure-rule-isnt-here-but-it-may-as-well-be-many-businesses-say-854789bd; Robinson Meyer, *How the U.S. Made Progress on Climate Change Without Ever Passing a Bill*, ATLANTIC (Jun. 16, 2021), https://www.theatlantic.com/science/archive/2021/06/climate-change-green-vortex-america/619228/.

[113] Proposal for a Directive of the European Parliament and of the Council: Amending Directive 2013/34/EU, Directive 2004/109/EC, Directive 2006/43/EC and Regulation (EU) No 537/2014, As Regards Corporate Sustainability Reporting, at 5, COM (2021) 189 final (Apr. 4, 2021) [hereinafter CSRD Directive].

[114] *Id.*

[115] Frances Schwartzkopff, *Risk Managers Warn US Clients of EU Rules Shock: ESG Regulation*, BLOOMBERG (May 9, 2023), https://www.bloomberg.com/news/articles/2023-05-09/risk-managers-warn-us-clients-of-eu-rules-shock-esg-regulation.

[116] European Commission, Proposal for a Directive of the European Parliament and of the Council on Corporate Sustainability Due Diligence and amending Directive (EU) 2019/1937 (23 February 2022), COM(2022) 71 final 9 [hereinafter CSDDD]; Frances Schwartzkopff, *The Toughest ESG Rule Yet Puts EU on Collision Course With US*, BLOOMBERG.COM (Jul. 13, 2023), https://www.bloomberg.com/news/articles/2023-07-13/the-toughest-esg-rule-yet-puts-eu-on-collision-course-with-us.

[117] *Id. See also* Frances Schwartzkopff, *Executive Bonuses in Crosshairs in New CO2 Rule: ESG Regulation*, BLOOMBERG.COM (Apr. 27, 2023), https://www.bloomberg.com/news/articles/2023-04-27/executive-bonuses-in-crosshairs-in-new-co2-rule-esg-regulation.

[118] CSRD Directive, *supra* note 91.

[119] Dieter Holger, *At Least 10,000 Foreign Companies to Be Hit by EU Sustainability Rules*, WSJ (Apr. 5, 2023), https://www.wsj.com/articles/at-least-10-000-foreign-companies-to-be-hit-by-eu-sustainability-rules-307a1406.

Advisory Group (EFRAG).[120] As part of the ESRS, sector-specific reporting rules will be rolled out in coming years.[121] The broader European sustainable finance package includes the Sustainable Finance Disclosure Regulation (SFDR) as well as the EU Taxonomy Regulation, an ambitious and contentious effort to officially demarcate certain assets as "environmentally sustainable."[122] Therefore, when it comes to climate change, corporations are generally on alert that they will be expected to decarbonize in line with Paris Agreement targets, but large regulatory unknowns remain.[123] Officials from the United States have raised concerns over the extra-territorial reach of some of the rules, particularly the CSDDD, but the potential impact of the EU reforms is relatively underappreciated by American corporates.[124]

Across the Atlantic, the U.S. SEC has three rules in the works: one aimed at updating climate-related disclosure requirements for public corporations, and two targeted at combatting misinformation and greenwashing in the ESG investing industry.[125] The proposed American regulations are far less ambitious than the European plan to reorient the financial system. The climate disclosure rule sticks to a "single materiality" framing; it seeks to provide investors information about climate-related risks to corporations—not what risks corporations are imposing on everybody else.[126] Thus, under the SEC's proposed climate risk rule, only companies that have voluntarily made emissions-reduction pledges are required to disclose details about them.[127]

The SEC's other two proposed rules aim to regulate how ESG funds are marketed and described.[128] The SEC proposes that ESG funds identify as one of three types: impact, focused, or integration—where claims about actually *helping* the climate (or whichever chosen cause) can be made only by impact funds.[129] ESG-focused funds are those that use "ESG factors" as a main consideration in their investment strategy.[130] For funds claiming an environmental or climate

[120] CSRD Directive, *supra* note 91.

[121] Venilia Amorim, *EFRAG Called to Prioritise Implementation Support for Sustainability Reporting Standards*, INV PENSIONS EUR (Mar. 31, 2023), https://www.ipe.com/news/efrag-called-to-prioritise-implementation-support-for-sustainability-reporting-standards/10065884.article (reporting that EFRAG will focus on the implementation of the first set of general ESRS standards before finalize the sectoral standards).

[122] Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 [2020] OJ L198/13 [hereinafter SFDR].

[123] *See, e.g.*, *Worldwide Impact of CSRD--Are You Ready?* (PWC May 2023).

[124] Viktoria Dendrinou, *Yellen Says US Is Concerned About EU's ESG Supply Chain Rules*, BLOOMBERG (Jun. 13, 2023), https://www.bloomberg.com/news/articles/2023-06-13/yellen-says-us-is-concerned-about-eu-s-esg-supply-chain-rules; Luca Enriques, Matteo Gatti, *The Extraterritorial Impact of the Proposed EU Directive on Corporate Sustainability Due Diligence: Why Corporate America Should Pay Attention*, OXFORD BUS. L. BLOG (Apr. 21, 2022), https://blogs.law.ox.ac.uk/business-law-blog/blog/2022/04/extraterritorial-impact-proposed-eu-directive-corporate.

[125] The Enhancement and Standardization of Climate-Related Disclosures for Investors, 87 Fed. Reg. 21334 (Mar. 21, 2022) (to be codified at 17 C.F.R. § 210, 229, 232, 239, & 249 (2022)).

[126] *Cf.* Ann Lipton, *Not Everything is About Investors: The Case for Mandatory Stakeholder Disclosure*, 37 YALE J. REG. 499 (2020) (arguing that the U.S. disclosure system for public companies should serve broader interests).

[127] Sec. & Exch. Comm'n, The Enhancement and Standardization of Climate-Related Disclosures for Investors, 87 Fed. Reg. 21,334 (Apr. 11, 2022).

[128] Sec. & Exch. Comm'n, Enhanced Disclosures by Certain Investment Advisers and Investment Companies About Environmental, Social, and Governance Investment Practices, 87 Fed. Reg. 36,654 (June 17, 2022) [hereinafter ESG Fund Disclosure Rule] (proposing ESG fund disclosure requirements); Sec. & Exch. Comm'n, Investment Company Names, 87 Fed. Reg. 36,594 (June 17, 2022) (updating rules around fund branding).

[129] ESG Fund Disclosure Rule, *supra*, note 124.

[130] The third category, integration, simply considered ESG factors along with non ESG factors and must disclose how the ESG factors are considered. *Id.*

focus, the SEC specifically requires the additional disclosure of the fund's greenhouse gas emissions, in both "footprint" and intensity form.[131]

Securities regulators in the United States have made a clearer demarcation between climate risk and other environmental and pro-social goals than their peers in the European Union. The U.S. SEC's ESG investing rules are also less prescriptive than their European counterparts, and mostly avoid defining what is "green" or "ESG."[132] In the EU, impact funds touting sustainable investments fall under Article 9 of the SFDR.[133] Like the proposed SEC ESG Rule, the SFDR allows investment funds to self-define their theory of impact investing. But all invested assets in Article 9 funds must contribute to at least one of a set of pre-defined goals, including climate mitigation and climate adaptation.[134] Funds are additionally required to disclose their portfolio alignment with the EU Taxonomy of "green" investments. This regulatory structure is meant to enable institutional investors, banks, and other financial actors to steer capital toward the net-zero transition.[135] Indeed, the demand for Article 9 qualifying funds is high.[136] However, because the Taxonomy is still under development, asset managers and fund providers are currently reluctant to market under the Article 9 label due to fears about greenwashing and related liability.[137]

Many harmful greenwashing claims are related to the fungibility of carbon: overclaiming what emissions can be re-captured or avoided to "offset" other past, current, or planned emissions.[138] In the United States, the Commodities Futures Trading Commission is stepping into the fray, announcing plans to probe the so-called "Voluntary Carbon Market."[139] A series of recent investigative reports have exposed rampant fraud in the carbon credits market, including by one of the certification companies considered to be an industry leader.[140] The CFTC is currently surveying a new spate of private initiatives to standardize the carbon credit market, and has yet to take regulatory action beyond welcoming whistleblower claims related to manipulation or fraud in the carbon markets.[141]

Despite ongoing complaints about the "alphabet soup" of sustainable reporting frameworks, one significant feat of consolidation was accomplished in the finalization of the

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[131] *Id.*
[132] *Id.*
[133] SFDR, *supra* note 120.
[134] *Id.*
[135] European Commission, FAQ: What is the EU Taxonomy and How Will it Work in Practice? 8-11 (2021).
[136] Frances Schwartzkopff, *ESG Funds Hit by 'Staggering' Inflows Face Issuance Freeze*, BLOOMBERG (Mar. 5, 2023), https://www.bloomberg.com/news/articles/2023-03-05/esg-funds-hit-by-staggering-inflows-head-for-issuance-freeze.
[137] *Id.*
[138] *See generally*, Shelley Welton, *Neutralizing the Atmosphere*, 132 YALE L. J. 171 (2022) (documenting the many failures of "net-zero" corporate accounting);
[139] CFTC, *Opening Statement of Commissioner Christy Goldsmith Romero: The CFTC's Role with Voluntary Carbon Credit Markets*, https://www.cftc.gov/PressRoom/SpeechesTestimony/romerostatement071923b (last visited Aug. 4, 2023).
[140] Ben Elgin, *Nature Conservancy Hooked Corporate America on an Empty Climate Solution*, BLOOMBERG (Dec. 9, 2020), https://www.bloomberg.com/features/2020-nature-conservancy-carbon-offsets-trees/; Patrick Greenfield, *Revealed: More than 90% of Rainforest Carbon Offsets by Biggest Certifier Are Worthless, Analysis Shows*, GUARDIAN (Jan. 18, 2023), https://www.theguardian.com/environment/2023/jan/18/revealed-forest-carbon-offsets-biggest-provider-worthless-verra-aoe; *see also* Alejandro Guizar-Coutiño et al., *A Global Evaluation of the Effectiveness of Voluntary REDD+ Projects at Reducing Deforestation and Degradation in the Moist Tropics*, 36 CONSERV. BIOL. e13970 (2022).
[141] CFTC, *CFTC Whistleblower Office Issues Alert Seeking Tips Relating to Carbon Markets Misconduct* (Jun. 20, 2023), https://www.cftc.gov/PressRoom/PressReleases/8723-23.

International Sustainability Standard Board's (ISSB's) first set of standards.[142] The new rules, published under the authority of the entity that produces International Financial Reporting Standards, is meant to replace many of the leading voluntary reporting frameworks. Several countries intend to incorporate the ISSB climate standards into their national financial reporting laws.[143] The ISSB standards, like the U.S. SEC's proposed climate disclosure rule, stick to a "single materiality" frame, as opposed to adopting the EU's broader "double materiality" approach.[144] The ISSB differs from the SEC in requiring "Scope 3" value-chain emissions, holding them to be material information that could be reasonably expected to influence investor decisions.[145] While the SEC's proposed climate disclosure rules are destined to face litigation, the proliferation and standardization of climate-related reporting is likely an unstoppable trend that will touch most international companies. Even within the United States, disclosure rules are appearing in many forms, including proposed state legislation and federal purchasing requirements.[146]

IV. BOARD DUTIES & CORPORATE PURPOSE

The European Union's new set of corporate responsibility laws aim to substantially reinvent the role of the corporation in society. The CSDDD would create direct civil liability claims against corporations for diligence violations made in their "value chains."[147] Perhaps most significantly, the CSDDD would require the largest European companies to adopt net zero transition plans and tie executive pay incentives to these climate goals.[148] The CSDDD is moving through the EU political process, but it is too early to predict its final form and impact.[149] Mandatory corporate net zero goals are also underway in the United Kingdom, where large asset managers and listed firms have been directed to draw up plans before the Financial Conduct Authority finishes its detailed transition plan guidance.[150]

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142 Mike Scott, *Investors Hail End of 'Alphabet Soup' of Sustainability Disclosure with New ISSB Standards*, REUTERS (Jul. 31, 2023), https://www.reuters.com/sustainability/sustainable-finance-reporting/esg-watch-investors-hail-end-alphabet-soup-sustainability-disclosure-with-new-2023-07-31/.

143 Nathan de Arriba-Sellier, *The ISSB's New Standards: Breaking Ground or Low Hanging Fruits?* OXFORD BUS. L. BLOG (Jul. 21, 2023), https://blogs.law.ox.ac.uk/oblb/blog-post/2023/07/issbs-new-standards-breaking-ground-or-low-hanging-fruits

144 ISSB: Frequently Asked Questions, IFRS, https://www.ifrs.org/groups/international-sustainability-standards-board/issb-frequently-asked-questions/ (defining materiality).

145 de Arriba-Sellier, *supra* note 143.

146 Andrew Oxford, *California Emissions Reporting Bill Would Go Further Than SEC*, BLOOMBERG L. (Jul 13., 2023), https://news.bloomberglaw.com/ip-law/california-emissions-reporting-bill-would-go-further-than-sec; Jean Chemnick, *The Feds Have a Low-Carbon Shopping List. It's Global.*, E&E NEWS (Mar. 23, 2023), https://www.eenews.net/articles/the-feds-have-a-low-carbon-shopping-list-its-global/.

147 CSDDD *supra* note 125. *See also* Wolf-Georg Ringe & Alperen A. Gözlügöl, *A Critique of EU Policymaking on Sustainable Corporate Governance and Finance*, REV. EUR. DROIT (Summer 2022) (noting that an earlier version of the law that would expand director liability was removed).

148 Wolf-Georg Ringe, *Net-Zero Plans Under the Proposed CSDD*, OXFORD BUS. L. BLOG (Apr. 28, 2022), https://blogs.law.ox.ac.uk/business-law-blog/blog/2022/04/net-zero-plans-under-proposed-csdd.

149 Mark Segal, *EU Parliament Votes to Require Companies to Introduce Climate Transition Plans*, ESG TODAY (Jun. 1, 2023), https://www.esgtoday.com/eu-parliament-votes-to-require-companies-to-implement-climate-transition-plans/.

150 Huw Jones, *Get Cracking on Climate Transition Plans, UK Watchdog Tells Firms*, REUTERS (Feb. 7, 2023), https://www.reuters.com/business/sustainable-business/get-cracking-climate-transition-plans-uk-watchdog-tells-firms-2023-02-07/; *see also About, Transition Plan Taskforce*, https://transitiontaskforce.net/about/.

In the U.S., corporate law is unlikely to undergo a similar top-down legislative reorientation of corporate purpose. Nevertheless, as the physical damages of climate change mount—harming not only citizens but corporations themselves—so do critiques of the current system. Climate-related challenges to current corporate law are spurred not only by continued emissions, but also by private industry's failure to adapt to extreme weather.[151] The follow sections discuss how the changing climate is influencing debates on both board duties and corporate purpose.

a. Board Duties

As the place of incorporation for many of the world's largest firms, the U.S. state of Delaware plays an outsized role in determining the fate of corporate boards. Andrew Winden argues that Delaware courts should follow in the path of other common law jurisdictions that hold boards liable for failure to monitor enterprise risks.[152] The limitation of *Caremark* liability to "mission critical" failures of legal compliance, means that "Delaware directors [are not] sufficiently attentive to one of the greatest risks" to corporations, climate change.[153] Certainly, corporate leadership ought to be aware that climate change is a potential operational and enterprise risk.[154] As the shipper UPS's last-minute avoidance of a major strike demonstrated, climate change can also be a human resources and union relations problem.[155] The topic of climate-related supply chain risk appears with increasing frequency in the financial press, with major companies reorienting entire business strategies around resilience.[156] However, under Delaware's current law, failure to monitor non-legal business risks is not a violation of directors' duties.

But, as scholars and legal experts have pointed out, no great reinvention of fiduciary duties is required for climate change to shape board responsibilities under existing legal obligations.[157] As climate change shapes more aspects of the economy, and climate regulations grow, corporations will be subject to a wider array of climate-related reporting requirements. Not only climate-specific disclosures, but a wide range of financial reporting requirements could potentially expose boards to entity-specific compliance risk.[158] Further, both the number and type of lawsuits against emitting

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[151] *See, e.g.*, Aneil Kovvali & Joshua C Macey, *The Corporate Governance of Public Utilities*, 40 YALE J. REG. 569 (2023). (arguing that shareholder primacy is particularly problematic for governance of public utilities, notorious opponents to climate progress. The monopolistic, and therefore regulated, nature of the industry means that shareholders of utilities are shielded from risk and therefore underinvest in resilience).

[152] Andrew Winden, *Caremark's Climate Failure*, 74 U.C. HASTINGS L. J. 1167, 1169-10 (2023).

[153] *Id.*

[154] Emiliya Mychasuk, *Climate Change Turns up the Heat on Supply Chains*, FIN. TIMES (Jul. 21, 2023), https://www.ft.com/content/20096903-5523-42ff-9d95-e9ca3d5e72b0 (pointing to one large insurance broker's opinion that the "issue [of physical climate risk] is rising up the boardroom agenda.") .

[155] Tushar Khurana, *340,000 UPS Drivers Poised to Strike over Extreme Heat, Safe Working Conditions,* GRIST (Jul. 17, 2023) https://grist.org/labor/340000-ups-drivers-poised-to-strike-over-extreme-heat-safe-working-conditions/.

[156] Mychasuk, *supra* note 140; Bella Webb, *Climate Change is Coming for Fashion's Supply Chains*, VOGUE BUS. (Nov. 10, 2022), https://www.voguebusiness.com/sustainability/climate-change-is-coming-for-fashions-supply-chains.

[157] Sarah Barker, Cynthia Williams, Alex Cooper, *Fiduciary Duties and Climate Change in the United States* (Commonwealth and Climate Law Initiative Oct. 2021) (pointing out the "potential overlap between 'legal compliance' and 'business risks' in a climate change-related context, in particular where the alleged failure relates to a material risk to the corporation's financial position or prospects" including "healthy and safety laws" covering labor).

[158] *Id. See also* Ellie Mulholland, Sarah Barker, Cynthia Williams and Robert G. Eccles, 'Climate Change and Directors' Duties: Closing the Gap Between Legal Obligation and Enforcement Practice', in Richard LeBlanc (ed), The Handbook of Board Governance (2nd edn, John Wiley & Sons, Inc., Hoboken, New Jersey, Forthcoming).

companies continues to grow.[159] Not just oil and gas companies, but industrial producers and utilities have been named as defendants.[160] In addition to the nuisance and tort cases seeking compensation for climate-related harms, plaintiffs have filed claims related to consumer protection, securities fraud, violations of fiduciary duty, and failure to adapt.[161] While some approaches have failed quickly, to be refiled another day in another form, others have crept along in the courts.[162]

Insurance companies that provide liability coverage to directors and officers are on alert that the avenues to climate related liability are increasing.[163] They warn that companies may not only be exposed to liability for failing to take action on climate change—but for overclaiming climate progress, or not following through on climate related promises.[164] In 2023, the U.S. SEC's new Climate and ESG Enforcement Task Force settled its first case, in which it alleged that mining company Vale had knowingly misrepresented the safety of a tailings dam that collapsed in Brazil in 2019, killing hundreds.[165] Due to EU law and the structure of shareholdings, European companies and directors are subject to far less shareholder litigation than their American counterparts.[166] This may explain why European regulators are more comfortable following a "disclose now, we'll figure out the details later" attitude.[167] But how these reporting requirements will affect large U.S. companies simultaneously exposed to shareholder and state securities litigation back home, only time will tell.

b. Corporate Purpose

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[159] Lesley Clark, *"Tipping Point": Asbestos, Opioid Lawyers Enter Climate Fray*, E&E NEWS (Jul. 12, 2023), https://www.eenews.net/articles/tipping-point-asbestos-opioid-lawyers-enter-climate-fray/; Lesley Clark, *Supreme Court Unlocks Climate Cases by Rejecting Oil Industry Bid*, E&E NEWS (Apr. 25, 2023) https://subscriber.politicopro.com/article/eenews/2023/04/25/supreme-court-rejects-oil-industry-bid-unlocking-climate-cases-00093572.

[160] Camilla Hodgson, *Who Pays for Climate Change? The Peruvian Suing a German Utility*, FIN. TIMES (Jul. 5, 2022), https://www.ft.com/content/e26c5813-354b-4b6b-8bc1-70b39ef9837c; Isabella Kaminski, *Indonesian Islanders Sue Cement Producer for Climate Damages,* GUARDIAN (Jul. 20, 2022) https://www.theguardian.com/world/2022/jul/20/indonesian-islanders-sue-cement-holcim-climate-damages.

[161] *See* Climate Change Litigation Databases, Sabin Center for Climate Change Law at Columbia Law School and Arnold & Porter, http://climatecasechart.com/.

[162] *See, e.g.*, Kevin LaCroix, *English Court Rejects Climate Change Case Against Shell Board*, D&O DIARY (Jul. 11, 2023), https://www.dandodiary.com/2023/07/articles/esg/english-court-rejects-climate-change-case-against-shell-board/; Nate Raymond, *Mass. Top Court Skeptical of Exxon Defense in Climate Change Suit*, REUTERS (Mar. 9, 2022), https://www.reuters.com/legal/litigation/mass-top-court-skeptical-exxon-defense-climate-change-suit-2022-03-09/.

[163] *See generally*, Amelia Miazad, *D&O Insurers as Climate Governance Monitors*, BOS. U. L. REV., forthcoming, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4222100.

[164] Kevin LaCroix, *Wood Products Company Hit with ESG "Greenwashing" Securities Suit*, D&O DIARY (Nov. 7, 2022), https://www.dandodiary.com/2022/11/articles/securities-litigation/wood-products-company-hit-with-esg-greenwashing-securities-suit/.

[165] *SEC Announces $55.9 Million Settlement in First Action Brought by Its Climate and ESG Task Force*, Sidley Insights (Apr. 11, 2023), https://www.sidley.com/en/insights/newsupdates/2023/04/sec-settlement-in-first-action-brought-by-its-climate-and-esg-task-force. *See also* Madison Condon, *Shareholder Litigation Puts a Spotlight on Environmental Risk*, State of the Planet (Jul. 11, 2016), https://news.climate.columbia.edu/2016/07/11/shareholder-litigation-puts-a-spotlight-on-environmental-risk/ (highlighting several shareholder class actions against mining companies in disputes related to misstating environmental risk).

[166] Ringe & Gözlügöl, *supra* note 147 at 128.

[167] The author thanks Thom Wetzer for discussion on this point.

Marcel Kahan and Edward Rock argue that recent shifts in climate-related corporate action are part of a larger abandonment of "classical liberal economic theory" as the underlying ideology of corporate governance theory.[168] This rising skepticism over the efficiency of markets is reflected, for example, in the choice to tie executive pay incentives to metrics other than share price, and to use "non-financial" metrics to supplement trading decisions.[169] Relatedly, in the U.S. political realm the Inflation Reduction Act and other industry-focused spending packages are taken to represent the death of neoliberalism in the U.S. and the rekindling of the industrial policy of another era.[170] Instead of a carbon tax that transforms the energy system through the wonders of price signals, the focus is on capital stock and capital investment in specific sectors and technologies.[171]

However, if we are in fact on the verge of a new era of corporate governance, its guiding ideology is still unclear. The industrial policies of the past relied upon coordination between the state, labor, and the private sector, as represented by corporate executives.[172] This age of managerialism was replaced by a belief in markets, with share price maximization and limited government interference in steering corporate purpose.[173] But as accounts of the financial sector's misunderstanding and mispricing of climate risk have grown—so have doubts in markets as a tool for organizing the future.[174] In this world, the power of institutional investor voice becomes crucial.[175] For many, their ability to control and coordinate corporations holds promise for overcoming the chaotic market mechanisms that led us here.[176]

At the same time, many caution that private capital alone cannot possibly meet the climate challenge.[177] Along with their other failures, markets are not very good at delivering some of the

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[168] Kahan & Rock, *Corporate Governance Welfarism supra* note 2 at 109.

[169] *Id.* at 120. This author also noted with interest when lawyers from the corporate law firm Wachtell, Lipton, Rosen & Katz relied upon a heterodox economic report on the value of biodiversity. Allison Rabkin Golden et al., *The Coming Wave of "Natural Capital" and Biodiversity Shareholder Activism and Stewardship Pressure on Boards*, HARV. LAW SCH. FORUM CORP. GOV. (Dec. 17, 2022), https://corpgov.law.harvard.edu/2022/12/17/the-coming-wave-of-natural-capital-and-biodiversity-shareholder-activism-and-stewardship-pressure-on-boards/.

[170] Willy C. Shih, *The New Era of Industrial Policy is Here*, HARV. BUS. REV. (Sept-Oct. 2023), https://hbr.org/2023/09/the-new-era-of-industrial-policy-is-here; Rana Foroohar, *The New Rules for Business in a Post-Neoliberal World*, FIN. TIMES (Oct. 9, 2022), https://www.ft.com/content/e04bc664-04b2-4ef6-90f9-64e9c4c126aa.

[171] Amarnath et al, *Varieties of Derisking*, *supra* note 12; Leah Stokes, Matto Mildenberger, *The Trouble with Carbon Pricing*, BOSTON REV. (Sept. 24, 2020), https://www.bostonreview.net/articles/trouble-carbon-pricing/.

[172] *The End of The Neoliberal Order*, HOW TO SAVE A COUNTRY (interview with Gary Gerstle) (May, 4, 2023), https://newrepublic.com/article/172268/end-neoliberal-order (describing the compromise made between capital, labor, and government in the 1940s and 50s, enabled, in part, by a lack of international competition); Dorothy Lund, Elizabeth Pollman, *The Corporate Governance Machine*, 121 COLUM. L. REV. 2563, 2571 (2021).

[173] *See generally*, GERALD DAVIS, MANAGED BY THE MARKETS 31-58 (2009); Paddy Ireland, *Financialization and Corporate Governance*, 60 N. IR. LEGAL Q. 1 (2009).

[174] *See, e.g.*, STEVE KEEN, LOADING THE DICE AGAINST PENSIONS, CARBON TRACKER INITIATIVE (2023) (detailing how investment fund managers rely on economic models that are significantly at odds with scientific forecasts of climate damages); Vanessa Houlder, Nathalie Thomas, *How Investors Are Underpricing Climate Risks*, FIN. TIMES (Aug. 17, 2023), https://www.ft.com/content/899472a8-e5e2-4fde-bc91-7e548ba35294; Condon, *Market Myopia's Climate Bubble*, *supra* note 19; Krahé, *supra* note 47.

[175] Braun, *Exit, Control*, *and Politics*, *supra* note 19 at 9.

[176] *See, e.g.*, Gordon, *Systematic Stewardship, supra* note 66; Miazad, *Net-Zero Antitrust*, *supra* note 100 at 2069 (arguing that institutional investors "are among the most capable non-state actors to address the climate crisis").

[177] Advait Arun, *The Investment Climate*, PHENOMENAL WORLD (Aug. 26, 2023), https://www.phenomenalworld.org/analysis/the-investment-climate/ (arguing that truly "mobilizing private finance" would require institutional investors to remove certain barriers like credit ratings requirements and hurdle rates);

"greenest" goods. Seawalls and mangrove forests do not generate direct income streams despite the dispersed benefits they provide in the form of storm protection.[178] The first needs large upfront capital, and the second arguably needs to be protected *from* capital. In the EU, there is ideological momentum behind financializing the mangrove forest, enabling investment in and protection of "ecosystem services."[179] But requiring profit streams from public infrastructure that is necessary to prevent damage, rather than enable growth, is an awkward fit.

Scholars have noted the resemblance between today's ESG culture wars and historical debates over corporate purpose.[180] Some have suggested that taking the issue of climate change out of the "ESG" moniker would be clarifying, or potentially unifying: it would make it easier to defend that an investment position was taken based on "value" rather than "values."[181] But this misunderstands what the transition—and adaptation—will take. What is the best path to reach the transition—should we just switch from combustion engine cars to electric vehicles, or should we undertake large-scale public transportation projects and make our cities more walkable?[182] What is the tradeoff between electrifying everything and digging new mines? How much should we plan on relying on technological carbon dioxide removal?[183] What about geoengineering? These are political questions, but that does not mean they are only being answered in the realm of domestic politics. To some, the transnational corporation with its emissions-heavy supply chains dotting

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Daniela Gabor, *Private Finance Won't Decarbonise our Economies, but a 'Big Green State' Can*, GUARDIAN (Jun. 4, 2021), https://www.theguardian.com/commentisfree/2021/jun/04/private-finance-decarbonise-economies-green-state.

178 Anusar Farooqui, Tim Sahay, *Investment and Decarbonization: Rating Green Finance*, PHENOMENAL WORLD (May 13, 2021), https://www.phenomenalworld.org/analysis/rating-green-finance/.

179 EUROPEAN INVESTMENT BANK, INVESTING IN NATURE BASED SOLUTIONS 88-89 (Jun. 2023) (advocating for measures to encourage private finance of and corporate investment in "nature-based projects"). It is unclear whether this approach will be followed in an America that has done an about-face on the Washington Consensus. David Wallace-Wells, *America's 'Neoliberal' Consensus Might Finally Be Dead*, N.Y. TIMES (May 25, 2023), https://www.nytimes.com/2023/05/25/opinion/neoliberal-consensus-china-trade.html. However, the Biden Administration is currently undertaking to value its natural wealth in national accounting, an arguably related project. Lydia DePillis, *White House Aims to Reflect the Environmental in Economic Data*, N.Y. TIMES (Jan. 20, 2023), https://www.nytimes.com/2023/01/20/business/economy/economic-statistics-climate-nature.html.

180 As Sarah Haan has unearthed, Milton Friedman's infamous defense of corporate profits was in direct response to one fight over social responsibility in particular: the push for corporate diversity through "Campaign GM." Sarah Haan, *Exclusion in Corporate Law and Governance*, this volume.

181 Gordon, *Unbundling Climate Change Risk from ESG*, *supra* note 5; Felix Mormann, Milica Mormann, *It's Time to Give Companies Standalone Climate Ratings*, HARV. BUS. REV. (May 24, 2022), https://hbr.org/2022/05/its-time-to-give-companies-standalone-climate-ratings.

182 *Rocks and Hard Places: The Complicated Nexus of Energy Transition Minerals and Biodiversity*, https://www.spglobal.com/esg/insights/featured/special-editorial/rocks-and-hard-places-the-complicated-nexus-of-energy-transition-minerals-and-biodiversity; Riofrancos et al, *supra* note 47.

183 Katie Lebling, Clea Schumer, and Danielle Riedl, *International Governance of Technological Carbon Removal: Surfacing Questions, Exploring Solutions*, WORLD RESOURCES INST. 3 (Aug. 2023), (noting the challenges related to equity and the governance of carbon capture technology); Jérôme Hilaire et al., *Negative Emissions and International Climate Goals—Learning from and About Mitigation Scenarios* 157 CLIMATIC CHANGE 189, 210 (2019) (arguing that because "large-scale deployments of [negative emissions technologies] impact regional economies, energy systems and carbon budgets [and] also lead to food price increases, local air and water pollution, water overuse and biodiversity losses…. [these technologies] should be examined under a broader spectrum of societal and environmental goals.").

dozens of countries at once seems like a natural place for political change.[184] Others look one step above at the international financial system.[185]

V. CONCLUSION

As this chapter is drafted in the summer of 2023, scientists publish new data indicating that the collapse of a major Atlantic Ocean circulation current is expected this century, as soon as a few decades, perhaps.[186] Another paper forecasts that much of the water stored in the Tibetan Plateau will disappear, evaporating the water source of around 2 billion people.[187] NASA is worried about declining crop yields.[188] Yet, when I log in to check on my Vanguard Target Retirement 2050 Fund, the balance has ticked up slightly this summer.[189] Because this is how the United States handles its retirement system, that fund was defaulted into my life through an old job.[190] Some of the money from my paycheck now sits in the form of stock and bonds in corporate America. The stocks' voting rights are exercised under the oversight of Tim Buckley, who disavows any obligation to think about whether the valuations in my portfolio are consistent with the climate changed future projected by science.

As we move farther into this century the global plan for decarbonization will increasingly need to react to extreme events and supply chain disruptions. This "retail investor" is skeptical of the economic future.[191] And she would argue that the money in her retirement account would be better spent on resilience projects—public goods to defend us against the guaranteed-to-be chaotic future. But translating a pile of corporate equities into climate resilience projects requires more than changing corporate law. While an ideological shift is underway, meeting the climate challenge will undoubtably require more radical debate over the role of finance and the corporation—we are just beginning.[192]

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[184] Barzuza *et al.*, *supra* note 8 (describing how millennials are channeling their social demands into firms); Isabelle Ferreras, Democratising Firms: A Cornerstone of Shared Sustainable Prosperity, Centre for the Understanding of Sustainable Prosperity (July 2019), cusp.ac.uk/essay/m1-10.

[185] Miazad, *Net-Zero Antitrust*, supra, note 100 at 2069; Miazad also points to Mariana Pargendler's scholarship on the power of "soft international law" to shape corporate governance, arguing that public-private investor alliances play such a role. *Id.*, *citing* Mariana Pargendler, *The Rise of International Corporate Law*, 98 WASH. U. L. REV. 1765, 1768 (2021); Maria Nieto, Chryssa Papathanassiou, *Financing the Orderly Transition to a Low Carbon Economy in the EU: the Regulatory Framework for the Banking Channel*, J. BANK. REG., (Jun. 2023) (arguing that a "degree of interoperability of regional taxonomies is required, which calls for international cross-pollination and coordination to mitigate financial risks and the risk of harmful market fragmentation").

[186] Peter Ditlevsen & Susanne Ditlevsen, *Warning of a Forthcoming Collapse of the Atlantic Meridional Overturning Circulation*, 14 NAT. COMMUN. No. 1, 4254 (2023).

[187] Xueying Li et al., *Climate Change Threatens Terrestrial Water Storage over the Tibetan Plateau*, 12 NAT. CLIM. CHANGE 801 (Sep. 2022).

[188] Jonas Jägermeyr et al., *Climate Impacts on Global Agriculture Emerge Earlier in New Generation of Climate and Crop Models*, 2 NAT. FOOD No. 11, 873 (2021).

[189] *Stock Market News, July 31, 2023: Indexes Finish Higher, Close Month With Gains*, WSJ, https://www.wsj.com/livecoverage/stock-market-today-dow-jones-07-31-2023.

[190] *See*, Anne Tucker, *Retirement Revolution: Unmitigated Risks in the Defined Contribution Society*, 51 HOUS. L. REV. 153, 170-74 (2013); JACOB HACKER, THE GREAT RISK SHIFT 109-135 (2008) (both describing the shift from defined benefit to defined contribution plans, and the rise of the individual savings account (IRA)).

[191] Condon, *Damage Functions*, *supra* note 70.

[192] Should we democratize finance or shrink it? *Compare*, Lenore Palladino, *Establishing a Public Option for Asset Management in the United States*, REV. SOC. ECON. (2023) *with* Benjamin Braun, *Fueling Financialization: The Economic Consequences of Funded Pensions*, 31 NEW LABOR F. 70 (2022).