

Fiduciary Duty and Corporate Externalities: Rethinking Directors' Climate Obligations

Law Working Paper N° 842/2025

April 2018

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University Press, 2026, forthcoming)

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ECGI Working Paper Series in Law

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Keywords: Directors' duties; fiduciary; climate change; externalities; universal

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An abridged version of this paper is forthcoming as “Corporate Law and Governance” in Douglas A. Kysar and Ernest Lim (eds), The Oxford Handbook of Climate Change and Private Law (Oxford University Press, 2026, forthcoming)

Fiduciary Duty and Corporate Externalities: Rethinking Directors' Climate Obligations

Ernest Lim*

Abstract: This paper examines what I call the external dimension of directors’ duties—whether directors can and should consider the company’s impacts on climate change or address other negative externalities, even when doing so may not be connected to firm-specific shareholders’ financial interests. This is in contrast to what I call the internal dimension of directors’ duties, which is concerned with the company’s interests, often equated with shareholder value.

The inquiry into the external dimension gains urgency from three developments: the rise of diversified investors and the universal ownership movement; EU regulations requiring corporate sustainability due diligence; and importantly, the prominence of state-owned enterprises (SOEs) as among the worst global greenhouse gas emitters.

I critically examine three arguments that purportedly support the external dimension of directors’ duties. First, I argue that the incorporation of nature-related provisions into corporate constitutions by UK companies provides limited protection due to shareholder primacy constraints. Second, I show that catering to shareholders’ preferences is unpersuasive, as empirical evidence shows most shareholder environmental activism in the US remains financially motivated. Finally, I advance the novel argument that in SOEs, such as those in China, the duties of directors of SOEs can align with those of the state as the controlling shareholder and as the asset owner. My analysis of Chinese SOEs holds at least three lessons for the US and comparative corporate governance discourse on climate change pertaining to government-owned utility companies, the double-edged sword of the universal ownership argument, and the conflict between the broader economic benefits generated by carbon-intensive SOEs and the externalities caused by them.

Key words: Directors’ duties; fiduciary; climate change; externalities; universal ownership; state-owned enterprises; investors’ duties; corporate law; corporate governance; ESG; sustainability

I. INTRODUCTION

A key issue in the field of directors' duties and climate change is whether directors are required as part of their legal duties to consider climate-related risks and opportunities where these affect the company's long-term interests often equated with financial materiality.¹ Significant progress has been made on this front.² The other important related issue concerns the enforcement of these duties through derivative actions or other corporate mechanisms. Little progress has been made on this issue as courts are generally reluctant to second guess board decisions.³ These two issues focus on what I call "the internal dimension of directors' duties".

A third issue is concerned, however, with what I call "the external dimension of directors' duties": whether directors of a limited liability company can and should consider the adverse impacts of the company's operations on climate change, the economy, nature, or society, even if doing so is not necessarily tied to, or may even adversely affect, the financial interests of the firm-specific shareholders (at least in the short-term). This issue will be the subject of critical analysis in this paper, where I will analyse Anglo-American and Chinese corporate governance. While there have been extensive discussions on investor stewardship, stakeholderism and corporate purpose in the corporate law and governance literature,⁴ relatively less attention has been devoted to the issue of the

*Professor of Law and Vice Dean, Faculty of Law, National University of Singapore; ECGI Research Member. I am grateful to Vice Chancellor Travis Laster of the Delaware Court of Chancery, Rick Alexander, Sarah Barker, Peter Barnett, Alex Clark, Arjuna Dibley, Eilis Ferran, Jasmin Fraser, Douglas Kysar, Cynthia Williams, Jan-Erik Schirmer, Philippe Benoit and Roy Shapira for astute and helpful comments, as well as to Anna Jeeyoon Chung for excellent research assistance. I also thank the participants at the Oxford Handbook of Climate Change and Private Law conference at Yale Law School for their helpful feedback.

¹ Ravi Bansal, Marcelo Ochoa and Dana Kiku, 'Climate Change and Growth Risks' (2016) National Bureau of Economic Research Working Paper No 23009; Edith Ginglinger and Quentin Moreau, 'Climate Risk and Capital Structure' (2023) 69 Management Science 7492; Patrick Bolton and Marcin Kacperczyk, 'Do Investors Care About Carbon Risk?' (2021) 142 Journal of Financial Economics 517.

² See eg, Sarah Barker, 'Directors' Liability and Climate Risk: Australia – Country Paper' (Commonwealth Climate and Law Initiative, April 2018); Sarah Barker, Cynthia Williams and Alex Cooper, 'Fiduciary Duties and Climate Change in the United States' (Commonwealth Climate and Law Initiative, October 2021); Shyam Divan, Sugandha Yadav and Ria Singh Sawhney, 'Directors' Obligations to Consider Climate Change-Related Risk in India' (Commonwealth Climate and Law Initiative, 7 September 2021); Commonwealth Climate and Law Initiative, 'Directors' Duties Navigator: Climate Risk and Sustainability Disclosures' (26 September 2024); Rolf H Weber and Andreas Hosli, 'Climate Change Liability: Comparing Risks for Directors in Jurisdictions of the Common and Civil Law' (2020) 10 Climate Law 151; Andreas Wildner and Maurits Dolmans, 'Discussion paper: Sustainable Fiduciary Duties' (Net Zero Lawyers Alliance, 18 September 2024).

³ *ClientEarth v Shell plc* [2023] EWHC 1137 (Ch); Ernest Lim and Umakanth Varottil, 'Climate Risk: Enforcement of Corporate and Securities Law in Common Law Asia' (2022) 22 Journal of Corporate Law Studies 391.

⁴ See eg Marcel Kahan and Edward Rock, 'Corporate Governance Welfarism' (2023) 15 Journal of Legal Analysis 108; Colin Mayer, 'What is Wrong with Corporate Law? The Purpose of Law and the Law of Purpose' (2022) 18 Annual Review of Law and Social Science 283; Lucian Bebchuk and Roberto Tallarita,

external dimension of directors' duties in the Anglo-American literature. But it deserves to be scrutinised in view of fresh challenges and renewed motivations. I identify and evaluate three of them.

The first is the timeliness of the universal ownership argument and the 2024 Delaware Court of Chancery decision in *McRitchie v Zuckerberg*.⁵ There the court held that directors do not owe duties to diversified investors, only to the company and its firm-specific investors. Nevertheless, this decision is important not least because it clarifies the circumstances under which directors can still internalise corporate negative externalities, even if doing so is not tied to the financial interests of the company's firm-specific shareholders.

Second, recent regulations with extra-territorial effect such as the 2024 European Union (EU) Corporate Sustainability Due Diligence Directive⁶ (CSDDD) requires companies to address the adverse impacts of their operations on human rights and the environment and the 2023 EU Corporate Sustainability Reporting Directive⁷ (CSRD) requires companies to report social and environmental information on a double materiality basis. Thus, it is inevitable that responsible and forward-looking boards of in-scope EU and non-EU companies must consider how internalising and reporting on adverse corporate impacts is permitted or even required by their fiduciary duties to the company.

Finally, there is overwhelming evidence that state-owned enterprises (SOEs)⁸ are among the world's largest greenhouse gas (GHG) emitters, and SOEs have multiple purposes including the promotion of environmental, economic and social objectives in addition to profit generation.⁹ Thus, the question of whether directors of SOEs can and should

'The Illusory Promise of Stakeholder Governance' (2020) 106 Cornell Law Review 91; Zohar Goshen and Assaf Hamdani, 'Will Systematic Stewardship Save the Planet?' (2023) European Corporate Governance Institute – Law Working Paper No 739/2023; Mariana Pargendler, 'Corporate Law in the Global South: Heterodox Stakeholderism' (2024) 47 Seattle University Law Review 535

⁵ 315 A.3d 518 (Del Ch. 2024).

⁶ Directive (EU) 2024/1760 of the European Parliament and of the Council of 13 June 2024 on corporate sustainability due diligence and amending Directive (EU) 2019/1937 and Regulation (EU) 2023/2859 [2024] OJ L2024/1760.

⁷ Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting [2022] OJ L 322/15.

⁸ The OECD acknowledges that definitions of SOEs vary across countries but adopts a broad approach, defining them as "any corporate entity recognized by national law as an enterprise in which the state exercises ownership": OECD, *OECD Guidelines on Corporate Governance of state-Owned Enterprises* (2023), 14. Additionally, SOEs can be categorized based on full or majority ownership, as well as other companies where the state has invested or holds significant influence: Andrew Prag, Dirk Röttgers and Ivo Scherrer, *State-Owned Enterprises and the Low-Carbon Transition*, OECD Environment Working Papers No. 129, (OECD Publishing, 2023).

⁹ See Part III(B)(3).

address climate-related or systemic considerations that are not necessarily tied to firm-specific shareholders' financial interests is of legal significance and practical interest.

I critically analyse two legal arguments, and advance a third one, which allow and may even obligate boards to take into account these considerations, even if doing so is not connected, or does not lead, to the maximisation of shareholders' returns.

The first is the widely publicised incorporation of nature-related provisions into the corporate constitution by limited liability companies in the United Kingdom (UK).¹⁰ These nature-related provisions permit boards to address systemic level considerations. But as I demonstrate, these nature-related clauses have severe limitations in both theory and practice because they operate within an enlightened shareholder primacy model of corporate law such as that in the UK.

The second argument is that directors can and should cater to the non-financial preferences of shareholders. This argument has been popularized by Professors Hart and Zingales.¹¹ I consider four mechanisms through which boards have done or can do so. But I conclude that the second argument is unpersuasive because most studies show that shareholders pressure boards to incorporate environmental and social considerations for mainly financial reasons.

Finally, I advance and endorse the novel argument that in the context of SOEs, there can be an alignment of directors' fiduciary duties with the fiduciary duties of the controlling shareholder and the asset owner. I argue that this is because in each of these duties, the fiduciary is permitted (and may even be required) to consider the impacts of the SOE's operations on climate change, the economy or society, even if doing so is not necessarily tied to the financial returns of that SOE's—the firm-specific—shareholders. I illustrate my argument with SOEs in China, the world's second largest economy, the world's largest GHG emitter¹², but also the world's largest producer of renewable energy¹³; the lessons drawn are of wider relevance to SOEs in other countries. I suggest that directors of coal-fired plant Chinese SOEs prioritise broader economic considerations above firm-specific shareholder returns. My analysis of SOEs holds lessons for the discourse on comparative corporate governance and climate change.

The structure of this paper is as follows. Part II provides an overview of the internal dimension of directors' duties and their enforcement. Part III (A) examines three reasons for addressing the external dimension of directors' duties. Part III (B) analyses three

¹⁰ See Part III(B)(1).

¹¹ Oliver Hart and Luigi Zingales, 'Companies Should Maximize Shareholder Welfare not Market Value' (2017) 2 *Journal of Law, Finance, and Accounting* 247.

¹² See eg, Hongqiao Liu and others, 'The Carbon Brief Profile: China' *Carbon Brief* (30 November 2023).

¹³ See eg, Isabel Hilton, 'How China Became the World's Leader on Renewable Energy' *Yale Environment* 360 (13 March 2024).

arguments in support of addressing the external dimension. Part IV concludes by reflecting on the contributions and implications of this paper.

II. THE INTERNAL DIMENSION: DIRECTORS' DUTIES TO CONSIDER CLIMATE-RELATED RISKS AND OPPORTUNITIES AND THE ENFORCEMENT OF THESE DUTIES

A. The Internal Dimension of Directors' Duties

Under Delaware and UK law, as well as the laws of many common law and civil law jurisdictions, it is well-established that the duties directors owe to the company include acting in good faith in the company's best interests, exercising reasonable care, skill and diligence, avoiding unauthorised conflicts of interests and unauthorised receipt of profits, and taking into account all relevant considerations and excluding irrelevant considerations in their decision-making process.¹⁴

Climate-related risks and opportunities are relevant considerations as they materially affect the company's financial interests, particularly if the company belongs to certain sectors.¹⁵ Climate risks (including physical, transition and litigation) and the mitigation actions (such as transitioning away from fossil fuels, investing in clean technologies and refraining from high emissions projects) affect the long-term financial performance of the company.¹⁶ Climate-related opportunities are potential benefits organizations can gain from climate change such as cost savings through resource efficiency, using low-emission energy, developing new products and services, and strengthening supply chain resilience.

Thus, it should be uncontroversial that the board, acting in the company's best interests and exercising reasonable care, skill and diligence, needs to address material climate risks and opportunities in its decision-making process as these risks and opportunities affect or are likely to affect the company's long-term interests.¹⁷ This may require putting in place a proper systems and processes including but not limited to transition plans as

¹⁴ See eg, Reiner Kraakman and others, "The Anatomy of Corporate Law: A Comparative and Functional Approach (3rd edn, OUP 2017) 69-70.

¹⁵ Bank of England, 'Transition in Thinking: The Impact of Climate Change on the UK Banking Sector' (September 2018) <<https://www.bankofengland.co.uk/prudential-regulation/publication/2018/transition-in-thinking-the-impact-of-climate-change-on-the-uk-banking-sector>> accessed 15 March 2025.

¹⁶ See the literature cited in (n 1).

¹⁷ See the literature cited in (n 2).

well as an internal carbon pricing mechanism and scenario analysis to evaluate and quantify material climate-related risks to the company's businesses and operations.¹⁸

Indeed, mainstreaming climate change in board decision-making process is hardly disputable, particularly but not exclusively in light of the widespread adoption of the ISSB disclosure framework (into which the TCFD framework was incorporated) by regulators and stock exchanges.¹⁹ The legal opinions on directors' duties to address climate-related risks commissioned by the UK-based environmental charity, the Commonwealth Climate and Law Initiative²⁰, and their analyses for the Climate Governance Initiative on directors' duties for over 30 jurisdictions and the EU²¹, are a testament to the ongoing timeliness and significance of the internal dimension of directors' duties.

B. Enforcement

That said, a more challenging issue is not whether directors are required to consider climate-related considerations as part of their fiduciary duties, but whether those duties will be enforceable by courts.²² In the widely publicized English High Court decision in *ClientEarth v Shell Plc*²³, a minority shareholder of Shell, ClientEarth, a charity, sought

¹⁸ Task Force on Climate-related Financial Disclosures, 'Recommendations of the Task Force on Climate-related Financial Disclosures' (June 2017).

¹⁹ *ibid.* Note that the TCFD was disbanded in 2023 and the TCFD recommendations have been incorporated into the International Sustainability Standards Board under the IFRS Foundation: [https://www.ifrs.org/sustainability/tcfd/.IFRS, 'IFRS S2 Climate-Related Disclosures'](https://www.ifrs.org/sustainability/tcfd/.IFRS,%20IFRS%20Climate-Related%20Disclosures) <<https://www.ifrs.org/issued-standards/ifrs-sustainability-standards-navigator/ifrs-s2-climate-related-disclosures/>> accessed 15 March 2025; For a critique, see Nathan de Arriba-Sellier, 'The ISSB's New Standards: Breaking Ground or Low Hanging Fruits?' (*Oxford Business Law Blog*, 21 July 2023). 'Increasing Global Adoption of ISSB Standards' (*Debevoise and Plimpton*, 19 February 2025) <<https://www.debevoise.com/insights/publications/2025/02/increasing-global-adoption-of-issb-standards>> accessed 15 March 2025.

²⁰ The Commonwealth Climate and Law Initiative (CCLI) commissioned authoritative legal opinions on directors' duties and climate change in at least 7 jurisdictions: see CCLI, 'Across the Globe' <<https://commonwealthclimatelaw.org/across-the-globe/>> accessed 15 March 2025. This author serves on the board of CCLI.

²¹ Climate Governance Initiative, 'Directors' Duties Navigator: Climate Risk and Sustainability Disclosures Acknowledgements' <<https://hub.climate-governance.org/resource/directors-duties>> accessed 15 March 2025.

²² For US and Australian perspectives, see Brett McDonnell and others, 'Green Boardrooms?' (2021) 53 *Connecticut Law Review* 335, 386-397.

²³ [2023] EWHC 1897 (Ch). This is apparently the world's first climate-related decision on derivative action brought by a shareholder against directors for breach of duties. For a detailed analysis, see Ekaterina Aristova and Lionel Nichols, 'Climate Change on the Board: Navigating Directors' Duties' (2024) *Journal of Corporate Law Studies* <<https://www.tandfonline.com/doi/epdf/10.1080/14735970.2024.2414466?needAccess=true>> accessed 15 March 2025.

permission to bring a derivative action against Shell's directors for allegedly breaching their duties to exercise reasonable care, skill and diligence and to promote the company's success under UK law for failing to put in place appropriate measures and policies that are reasonably capable of implementing the company's net zero emissions goals. The claimant argued that Shell failed to set credible pathways in respect of Scope 3 emissions, although these constitute most of Shell's emissions, and despite Shell having set 100% reduction targets for Scope 3 by 2050.²⁴ Mr Justice Trower rejected the claimant's arguments on essentially two grounds and denied permission to bring a derivative action. The first ground is that because there was no universally accepted methodology for achieving the reductions the company set for itself, the directors cannot be said to have taken a decision no reasonable director could have done. Second, directors are required to balance the need to address climate risks with other commercial considerations.

On the first ground, the judge's reasoning is a non sequitur: it does not follow from the absence of a universally accepted methodology for achieving the targets that there is no breach of duty. It seems astonishing to insist on unanimity on what a credible transition plan is before there can be any assessment as to whether directors have breached their duty for failing to have a credible plan. At a fundamental level, as Lord Carnwath pointed out in a critical commentary, Mr Justice Trower failed to address a crucial point raised by the claimant: the directors have no credible policies for achieving the targets.²⁵ The judge deferred to the board. The second ground is also a non sequitur: it does not follow from the judicial recognition that directors have to balance competing considerations as part of their decision-making process that courts should accord automatic deference to the process.²⁶

The duty to exercise reasonable care, skill and diligence requires directors to consider relevant considerations and to exclude irrelevant considerations in their decision-making process. The scope of this duty should encompass directors acquainting themselves with the relevant scientific and economic evidence on climate change that is material to the company's interests, with which a reasonable director of a company in the same sector would have acquainted himself or herself. Thus, courts should carefully examine whether directors have discharged this duty instead of deferring to them. For example, boards may use outdated or questionable climate scenario analysis to identify, manage and price climate-related risks.²⁷ For fossil fuel companies like Shell, its net present value

²⁴ Another criticism made by the claimant is that Shell continues to have significant oil and gas construction, contrary to the directors' assertions that Shell is transitioning in accordance with the Paris Agreement.

²⁵ Robert Carnwath, 'ClientEarth v Shell: What Future for Derivative Claims?' (Grantham Research Institute on Climate Change and the Environment, February 2024).

²⁶ Ernest Lim, 'Judicial Intervention in Directors' Decision-Making Process: Section 172 of the Companies Act 2006' (2018) *Journal of Business Law* 169.

²⁷ Madison Condon, "Corporate Scenarios: Drawing Lessons from History" (2025) 48 *Seattle University Law Review* 277, 279, 294.

is usually derived from the future profitability of its existing reserves, which is based on future energy scenarios and management assumptions.²⁸ If a company has been found to use common but outdated and inaccurate scenarios such as the Shared Economic Pathway and IPCC's RCP8.5 in its baseline scenario analysis²⁹, then it can be questioned whether directors have taken into account irrelevant considerations or failed to consider relevant considerations, thereby breaching their duties to exercise reasonable care, skill and diligence and to act in the company's best interests.

III. THE EXTERNAL DIMENSION: DIRECTORS' CONSIDERATION OF CORPORATE IMPACT ON CLIMATE CHANGE, THE ECONOMY OR SOCIETY

Whether directors should address climate-related or other systemic considerations as part of their legal duties and the enforcement of these duties are issues concerned with the internal dimension of directors' duties. The external dimension of directors' duties is concerned with the contested issue of whether directors can and should address the effects of the company's operations on the environment, economy or society, also known as negative externalities. According to this claim, directors have to take into account these systemic level considerations, even if doing so is not necessarily tied to, or may even adversely affect, the financial returns of the firm-specific shareholders. In other words, directors need to consider not only the effects of climate change on the enterprise value (financial materiality)—the internal dimension—but also the effects of the company's operations on climate change, the economy or society (impact materiality)³⁰, the external dimension.

A. Importance of Addressing the External Dimension of Directors' Duties

To begin with, there is overwhelming evidence that companies have contributed to climate change and imposed negative externalities on the environment and society. The 2024 Carbon Majors Database reported that 57 oil, gas, coal and cement companies directly contributed to 80% of the world's global fossil CO₂ emissions since the Paris

²⁸ TA Hansen, 'Stranded Assets and Reduced Profits: Analyzing the Economic Underpinnings of the Fossil Fuel Industry's Resistance to Climate Stabilization' (2022) 158 *Renewable and Sustainable Energy Reviews* 112144.; Madison Condon, 'Market Myopia's Climate Bubble' (2022) *Utah Law Review* 63.

²⁹ Zeke Hausfather and Glen P Peters, 'Emissions – the “Business as Usual” Story is Misleading' (2020) 577 *Nature* 618; Emily Ho and others, 'Not all Carbon Dioxide Emissions Scenarios Are Equally Likely: A Subjective Expert Assessment' (2019) 155 *Climate Change* 545.

³⁰ Carol Adams and others, 'The Double-materiality Concept: Application and Issues' (Global Reporting Initiative, 2021); Chiara Mio, Marisa Agostini and Francesco Scarpa, *Sustainability Reporting: Conception, International Approaches and Double Materiality in Action* (Palgrave Macmillan 2024).

climate agreement entered into force in 2016.³¹ The study also finds that among the world's 122 historically largest polluters, 75 of which are privately held (or investor-owned) companies, 36 are SOEs, and 11 are nation states.³² Further, 55% of these privately held companies and 65% of these SOEs have increased their fossil fuel operations since 2016.³³ The data calls into question the claim put forward by some scholars that the maximisation of shareholder returns will result in pro-environmental or pro-social behaviour.³⁴ Indeed, in the context of climate change, it may be more profitable – at least in the short-to the medium term to continue with existing fossil fuels operations than to decarbonize.³⁵ Unsurprisingly, petrostates and fossil fuel companies campaigned aggressively and successfully against the wishes of 130 nations at COP28 in 2023 to phase out fossil fuels.³⁶ Further, the idea of a win-win argument—there is a necessary alignment of the promotion of environmental and social good and profit maximisation—is not on the whole grounded in credible empirical evidence.³⁷ One study even finds that pollution, particularly at the expense of the well-being of the community, maximises shareholder value.³⁸

It does not follow of course that corporate law should abandon the pursuit of environmentally or socially responsible behaviour and leave this task entirely to climate change law, environmental law or other areas of law; nor does it imply that the maximisation of shareholder returns is the only viable path for directors to discharge their duties, a view that is held by some prominent commentators.³⁹ Rather, it implies that there could be trade-offs between promoting environmental and social good and profit maximisation, and corporate law should consider whether boards are legally permitted,

³¹ Carbon Majors <<https://carbonmajors.org/Downloads>> accessed 15 March 2025.

³² *ibid.*

³³ *ibid.*

³⁴ See example, Stephen M Bainbridge, 'The Profit Motive: Defending Shareholder Value Maximization' (CUP 2023); Frank Easterbrook and Daniel R Fischel, *The Economic Structure of Corporate Law* (Harvard UP 1991) 37-39.

³⁵ Hansen (n 28).

³⁶ Damian Carrington, 'Opec Rails Against Fossil Fuel Phase-Out At Cop28 In Leaked Letters' *The Guardian* (8 December 2023); Damian Carrington, 'Cop28 Failed to Halt Fossil Fuels' Deadly Expansion plans – So What Now?' *The Guardian* (14 December 2023).

³⁷ See eg Luca Berchicci and Andrew A King, 'Material Sustainability and Stock Return: Faith is Not Enough' (2022) 7 *Journal of Financial Reporting* 41; Andrew A King and Kenneth P Pucker, 'The Dangerous Allure of Win-Win Strategies' (2021) 19 *Stanford Social Innovation Review* 34; Martin Oehmke and Marcus M Opp, 'A Theory of Socially Responsible Investment' (2024) *Review of Economic Studies* 1.

³⁸ Roy Shapira and Luigi Zingales, 'Is Pollution Value-Maximizing? The DuPont Case' European Corporate Governance Institute - Law Working Paper No. 723/2023.

³⁹ See eg Stephen M Bainbridge, *The Profit Motive: Defending Shareholder Value Maximization* (CUP 2023) 166-168. For a critique, see Ann Lipton, 'Will the Real Shareholder Primacy Please Stand Up' (2024) 137 *Harvard Law Review* 1584.

or even required, to address climate-related or other systemic risks, where doing so might conflict with the maximisation of the firm-specific shareholders' returns. This question has taken on heightened or renewed significance for at least three reasons. The first is the rise of the universal ownership movement and the Delaware Court of Chancery decision in *McRitchie v Zuckerberg*⁴⁰. Second, recent EU regulations require in-scope EU and non-EU companies to disclose impact materiality and to address adverse corporate impacts on human rights and the environment. Finally, SOEs are among the worst global GHG emitters and generally have multiple objectives including but not limited to profit-maximisation and the promotion of socio-economic goals.

1. Universal Ownership and *McRitchie v Zuckerberg*

Large institutional investors comprising pension funds, mutual funds and insurance companies (including but not limited to asset managers such as BlackRock, Vanguard and State Street, also known as the Big 3, and asset owners such as Norway's Norges Bank Investment Management, Japan's Government Pension Investment Fund, Singapore's Temasek Holdings, and the California Public Employees' Retirement System) are known as universal owners as they hold diversified portfolios across different kinds of assets in different areas of the economy.⁴¹ Whether their portfolios perform well depends on systemic considerations such as those related to the economy, market and geopolitics. The universal owners are willing to sacrifice the financial returns of one company in their portfolio because the negative externalities such as GHG emissions produced by that carbon intensive company will affect the other companies in their portfolio, which will affect the overall financial returns of their portfolio. This will in turn affect the long-term risk adjusted returns of the beneficiaries, to whom the asset owners owe fiduciary duties. The universal ownership argument is grounded not only in intellectual discourse⁴² but has been adopted by asset owners⁴³ and international organisations.⁴⁴

⁴⁰ *McRitchie* (n 5).

⁴¹ See eg Madison Condon, 'Externalities and the Common Owner' (2020) 95 Washington Law Review 1. For criticisms that the Big 3 are universal owners, see Roberto Tallarita, 'The Limits of Portfolio Primacy' (2023) 76 Vanderbilt Law Review 511.

⁴² Robert AG Monks and Nell Minow, *Watching the Watchers: Corporate Governance In the 21st Century* (Wiley 1996); James Hawley and Andrew Williams, 'The Emergence of Universal Owners: Some Implications of Institutional Equity Ownership' (2000) 43 Challenge 43; Jon Lukomnik and James P Hawley, *Moving Beyond Modern Portfolio Theory: Investing that Matters* (Routledge 2021); Shareholder Commons, 'Creating Guardrails to Protect Our Common Interest' <<https://theshareholdercommons.com>> accessed 15 March 2025.

⁴³ See eg Norges Bank Investment Management, '2025 Climate Action Plan' <<https://www.nbim.no/en/responsible-investment/2025-climate-action-plan/>> accessed 15 March 2025.

⁴⁴ See eg Principles for Responsible Investment, 'Active Ownership 2.0' <<https://www.unpri.org/investment-tools/stewardship/active-ownership-20>> accessed 15 March 2025;

In *McRitchie v Zuckerberg*⁴⁵, a shareholder of Meta sued the directors, officers and the controlling shareholder of Meta for breaching their fiduciary duties when they maximized the company's financial interests without considering the adverse impact of the company's products on the broader economy and society, such as the spread of misinformation on Meta's platforms and the potential harms to users' mental health, which harmed the interests of the diversified investors. The plaintiff argued that because directors owe fiduciary duties to diversified investors and most of the company's shareholders are such investors, the long-term portfolios of the diversified investors were or would be harmed as the company produced negative externalities on the economy and society as a whole. In other words, the plaintiff, a diversified investor, argued that directors are required by their fiduciary duties to reduce the negative externalities at the firm-specific (Meta) level, so as to improve the returns of the portfolios held by diversified investors, who account for the majority of Meta's shareholders. In a rigorously reasoned decision, Vice Chancellor Travis Laster of the Delaware Court of Chancery rejected the plaintiff's claim and held that under Delaware law, directors owe duties only to the company and its shareholders and not to diversified investors. Vice Chancellor Laster held that directors are not legally required to consider the effects of their decisions on the economy, climate change or society (or in other words, stakeholders) that are not tied to the financial interests of the firm-specific shareholders. He held that Delaware law on directors' duties is based on a firm-specific model rather than on a diversified-investor model.

However, an important distinction ought to have been made. It is one thing to say that directors have breached their duties if they failed to consider the interests of diversified investors, which is the claimant's argument. It is another thing to say that directors will breach or are likely to breach their duties if they do consider the interests of diversified investors. We need to distinguish what the law requires of directors and how likely directors will be held liable. Because of the business judgement rule which exists in some jurisdictions⁴⁶, it is unlikely for courts to hold directors liable for breaching their duties if they consider the interests of diversified investors, particularly if taking into account those interests is not inconsistent with the company's interests. I suggest that under Delaware and UK law, it is unlikely in practice for courts to impose liability on directors if they consider the interests of diversified investors or other stakeholders, although these interests are unconnected to those of shareholders, unless doing so brings about a significant financial detriment to the firm-specific shareholders.

a. When *must* directors internalize negative externalities?

Climate Action 100+, 'The Business Case' <<https://www.climateaction100.org/business-case/>> accessed 15 March 2025.

⁴⁵ *McRitchie* (n 5).

⁴⁶ See eg *Aronson v Lewis*, 473 A 2d 805, 812 (DE 1984); Andrew Keay and Joan Loughrey, 'The Concept of Business Judgment' (2019) 39 Legal Studies 36; Andrew Keay and others, 'Business Judgment and Director Accountability: A Study of Case-Law Over Time' (2020) 20 Journal of Corporate Law Studies 359.

Vice Chancellor Laster held that directors *must* consider the risks to the broader economy, if their decisions which “consistently or profoundly harm the broader economy will not be able to create durable long-term value for firm-specific stockholders.”⁴⁷ This is an important qualification. After all, companies, especially in the oil, gas, and coal sectors, are major contributors to GHG emissions, which drive global temperature increases and lead to economic harm, ultimately affecting shareholders’ interests. This raises questions about whether companies can continue externalizing such costs while delivering high shareholder returns. Empirical studies have found that the adverse financial impact of climate change on shareholders’ returns and global asset valuation can amount to 40% of net present value of future losses if we maintain the current mitigation action.⁴⁸ A study by the British Institute and Faculty of Actuaries finds that a 50% destruction of GDP is expected somewhere between 2070 to 2090.⁴⁹ In another study, the National Bureau of Economic Research, a private economics policy think tank in the US, reports that for every 1°C rise in global temperature, there will be a persistent loss of 12% of global GDP and that “[b]usiness-as-usual warming implies a 29% present welfare loss and a Social Cost of Carbon of \$1,065 per ton.”⁵⁰ The study states: “*These effects are comparable to experiencing the 1929 Great Depression, forever.*”⁵¹ In light of the evidence, it is worth reconsidering whether directors can be in compliance with their fiduciary duties to promote the company’s long-term interests, if they do not address the adverse impacts of the company’s operations on climate change, given that the latter will inevitably impact the former.

However, it may be argued that it is one thing to demonstrate that climate change has had and will continue to have adverse impacts on the economy. It is another thing to demonstrate that the adverse impacts on the economy will, in turn, lead to adverse impacts on corporate assets (including shares) of the company. This is because valuation of corporate assets depends to a significant extent on contestable and varied climate scenario analyses used by companies.⁵² Asset prices also depend on assumptions such as how transition risks are priced by the market, the extent of future damages, the effectiveness of renewable sources of energy, the deployment of carbon capture and

⁴⁷ *McRitchie* (n 5) 74.

⁴⁸ Riccardo Rebonato, Dherminder Kainth and Lionel Melin, ‘How Does Climate Risk Affect Global Equity Valuations?’ (EDHEC-Risk Climate Impact Institute, July 2024).

⁴⁹ Sandy Trust and others, ‘The Emperor’s New Climate Scenarios: Limitations and Assumptions of Commonly Used Climate-change Scenarios in Financial Services’ (Institute and Faculty of Actuaries, July 2023) 26.

⁵⁰ Adrien Bilal and Diego R Känzig, ‘The Macroeconomic Impact of Climate Change’ (2024) National Bureau of Economic Research Working Paper No 32450.

⁵¹ *ibid.*

⁵² Tom Gosling, ‘Universal Owners and Climate Change’ (2024) *Journal of Financial Regulation* 1, 14.

storage, the speed and scale of policy interventions, shifts in consumer and investor sentiment, and the resilience of financial markets to climate-related shocks.

However, the above qualifications reveal the complexities of quantifying the financial risks of climate change on the company; they do not support the claim that corporate law should not regulate the negative externalities generated by companies. After all, there is evidence that these externalities will harm the company's interests. For example, the operations of companies in a variety of sectors that resulted in adverse impacts on nature, which include climate change, can and have, in turn, harmed the companies as they have been sued or have their permits rejected, which have led to a reduction in market valuations and credit ratings.⁵³

b. When *can* directors address negative externalities?

Another important issue arising from *McRitchie* is whether directors *can* address the effects of the company's operations on climate change, the economy or society, or consider the interests of diversified investors, even if doing so is not necessarily tied to the financial interests of the firm-specific shareholders. Vice Chancellor Laster held that directors under Delaware law are legally permitted to do so, if shareholders agree to insert or amend specific provisions in the corporate charter such as those pertaining to the purpose of the company, for whom the company shall be managed, and the powers of the board.⁵⁴ This is likely to be the position under UK law.⁵⁵

In Part III(B)(1) below, I critically analyse a series of important amendments made by shareholders of UK companies to incorporate nature-related provisions into their corporate constitutions, which is in line with the suggestions made by Vice Chancellor Laster in *McRitchie*. However, as I will show, these voluntarily incorporated provisions suffer from various problems and are insufficient in themselves to cause companies to address negative externalities, because fundamentally, these provisions operate within a deeply entrenched shareholder primacy model of corporate law.

⁵³ Final Report - The Economics of Biodiversity: The Dasgupta Review (2021). For example, the market value of companies has been adversely affected due to the degradation of land and soil caused by these companies: Cambridge Institute for Sustainability Leadership, *Integrating Nature: The Case for Action on Nature-related Financial Risks* (2022). See also Recommendations of the Taskforce on Nature-related Financial Disclosures (September 2023) 12 <<https://tnfd.global/wp-content/uploads/2023/08/Recommendations-of-the-Taskforce-on-Nature-related-Financial-Disclosures.pdf?v=1734112245>> assessed 15 March 2025; Sharif A. Shivji and others, 'Nature-Related Risks and Directors' Duties Under the Law of England and Wales' (Commonwealth Climate and Law Initiative, 11 March 2024). One study demonstrates that firms experience, on average, a 0.41% fall in stock returns following a climate-related filing or an unfavourable court decision: Misato Sato and others, 'Impacts of Climate Litigation on Firm Value' (2024) 7 Nature Sustainability 1461, 1462.

⁵⁴ *McRitchie* (n 5) 93-95.

⁵⁵ Section 172(2), the UK Companies Act; *BTI 2014 LLC v Sequana SA* [2022] UKSC 25.

2. Regulatory requirements

a. EU CSDDD

The EU CSDDD⁵⁶, which came into force in July 2024, requires EU Member States to transpose into their national laws the requirements that in-scope EU⁵⁷ and non-EU⁵⁸ companies identify, prevent and bring to an end the adverse human rights and environmental impacts⁵⁹ in (a) their own operations, (b) the operations of their subsidiaries and (c) the operations of their business partners in the chain of activities⁶⁰ of the companies, and to ensure that those affected by a failure to respect this duty have access to justice and legal remedies.⁶¹ In addition, the EU CSDDD also requires in-scope companies to adopt and put into effect with best efforts a transition plan for climate change mitigation that is aligned with the Paris Agreement.⁶²

While the CSDDD does not require companies to achieve certain outcomes, the measures required by in-scope companies include: implementing a prevention action plan; seeking contractual assurances from business partners accompanied by measures to verify compliance; making changes to operational processes and infrastructures; and modifying the company's own business plan, strategies and operations including purchasing, design and distribution practices.⁶³

⁵⁶ See eg Harm-Jan de Kluiver, 'Towards a Framework for Effective Regulatory Supervision of Sustainability Governance in Accordance with the EU CSDD Directive. A Comparative Study' (2023) 20 European Company and Financial Law Review 203.

⁵⁷ EU companies (i.e., companies established under the laws of a Member State) that had above 1,000 employees and above EUR 450 million 'net worldwide turnover' in the last financial year: Recital 28.

⁵⁸ Non-EU companies (ie companies established outside of the EU) that generated a 'net turnover in the Union' of more than EUR 450 million in the financial year preceding the last financial year: Recital 29. While the net turnover requirement applies to (a) non-EU companies operating in Europe and (b) subsidiaries of non-EU companies operating in Europe, it does not extend to the business partners of the non-EU companies operating in Europe. But these in-scope EU business partners are likely to pressure the non-EU companies to comply with the CSDDD through contractual assurances.

⁵⁹ The CSDDD states that where the adverse impacts cannot be prevented or adequately mitigated, minimised or ended, the company is required to refrain from entering into new or extending existing relations with the relevant business partner, or in the worst case, to terminate the business relationship: Recital 50. The definition of "adverse impacts" is very broad which includes but is not limited to references to international conventions on biodiversity, marine pollution, child labour, and collective bargaining: see Annex pt. I (9)–(16), at 54–55.

⁶⁰ The chain of activities includes the activities of (a) a company's upstream business partners related to the production of goods or the provision of services by the company and (b) the activities of a company's downstream business partners related to the distribution, transport and storage of the product: Recital 25.

⁶¹ Recital 16; Articles 8-15.

⁶² Article 22.

⁶³ Recital 38.

In terms of sanctions for failing to comply, the supervising authorities of member states can order the company to cease the conduct or to perform certain actions. Member states can also impose a financial penalty, with the maximum limit being not less than 5% of the company's net worldwide turnover in the previous financial year.⁶⁴ Moreover, private parties can also bring civil law suits against the companies.⁶⁵

However, the above legislative requirements have to be read in light of the recent European Commission's adoption of a new package of proposals to simplify the CSDDD in order to generate cost savings and to boost EU's competitiveness. For example, due diligence activities will be limited to the companies' own operations, those of their subsidiaries and, where related to their chains of activities, those of their direct business partners.⁶⁶ Another proposed change is that companies no longer need to put into effect a transition plan for climate change mitigation.⁶⁷ Scholars argue that this watering down of the requirement to put into effect a transition plan will lead to more litigation against companies.⁶⁸ Moreover, regarding the sanctions for failing to comply, the proposal removes the 5% limit that is tied to the company's net turnover. Instead, the proposal clarifies that whether fines will be imposed and if so, how much, will be subject to guidelines set by the Commission.⁶⁹ Additionally, the provision that expressly permits private parties to bring civil suits will be removed. Instead, there will be a general provision that victims will be entitled to full compensation where companies violate the due diligence requirements.⁷⁰

b. EU CSRD

⁶⁴ Article 27(4).

⁶⁵ Article 29.

⁶⁶ Proposal for a Directive of the European Parliament and of the Council amending Directives 2006/43/EC, 2013/34/EU, (EU) 2022/2464 and (EU) 2024/1760 as regards certain corporate sustainability reporting and due diligence requirements, COM(2025) 81 final 2025/0045 (COD), 18.

⁶⁷ Ibid, 19

⁶⁸ "Concerns re potential re-opening of Article 22 CSDDD", <https://media.business-humanrights.org/media/documents/Concerns_regarding_potential_re-opening_of_Article_22_CSDDD_-_17-02-25_1.pdf> accessed 15 March 2025.

⁶⁹ COM(2025) 81 final 2025/0045 (COD) (n 66) 19-20

⁷⁰ Ibid, 20

In addition to the EU CSDDD, the EU CSRD, which came into force in January 2023, requires EU⁷¹ and non-EU⁷² companies to furnish reports on how sustainability issues (which encompass climate change) impact their financial performance (financial materiality) and on the impacts of the company's activities on sustainability matters (impact materiality).⁷³

In-scope EU and non-EU companies must provide in their management report a description of matters including but not limited to the principal actual or potential adverse impacts connected with the entity's own operations and with its value chain, and any actions taken by the entity to prevent, mitigate, remediate or bring to an end actual or potential adverse impacts, and the result of such actions.⁷⁴ In other words, while the CSDDD imposes obligations on companies to address negative corporate externalities, the CSRD imposes obligations on companies to report on the measures taken. At least 10,000 non-EU companies are subject to the CSRD.⁷⁵

The European Commission has recently come up with proposals including but not limited to extending the timeline of the reporting requirements and reducing the number of entities subject to the CSRD.⁷⁶ But importantly, for our purposes here, the Commission has reaffirmed the double materiality disclosure requirement.⁷⁷

c. International Sustainability Standards Board (ISSB)

The International Financial Reporting Standards Foundation, the body responsible for establishing ISSB, is in the process of developing new standards for ISSB that may require companies to disclose how their emissions affect the portfolio returns of their diversified

⁷¹ EU companies include large, small and medium size public interest undertakings and issuers: Recital 17; Articles 19a, 29a.

⁷² Non-EU companies are defined as those which derive net turnover of >€150M in the EU for each of last two consecutive financial years and has (a) a large undertaking EU subsidiary; (b) an EU SME subsidiary with securities listed on an EU regulated market; or (c) an EU branch generating net turnover >€40M in the EU: Recital 20.

⁷³ For a critical analysis of impact materiality, see Felix E Mezzanotte, 'Corporate Sustainability Reporting: Double Materiality, Impacts, and Legal Risk' (2023) 23 Journal of Corporate Law Studies 633, 645-655.

⁷⁴ Recitals 30, 31; Articles 19a, 29a.

⁷⁵ Dieter Holger, 'At Least 10,000 Foreign Companies to Be Hit by European Rules', Wall Street Journal (5 April 2023).

⁷⁶ Proposal for a Directive of the European Parliament and of the Council amending Directives (EU) 2022/2464 and (EU) 2024/1760 as regards the dates from which Member States are to apply certain corporate sustainability reporting and due diligence requirements, COM(2025) 80 final 2025/0044 (COD).

⁷⁷ COM(2025) 81 final 2025/0045 (COD) (n 66) 5.

investors.⁷⁸ If the standards materialized, it will be significant extension of the reporting requirements that has been traditionally focused on the company itself.

d. Commentary on CSDDD, CSRD and directors' duties

It is outside the scope of this paper to undertake a detailed evaluation of the CSDDD or CSRD. To be clear, neither of these regulations specifically impose duties on directors to address climate or systemic risks or to consider the interests of non-shareholders. The duties that CSDDD and CSRD imposed are on companies. One may even go further and assert that directors are not required by their duties to consider the adverse impacts of the company's operations on climate change or the economy. This is because a provision in the original version of the CSDDD —requiring directors as part of their duties to act in the company's best interests to take into account the consequences of their decisions for sustainability matters (which include climate change)—was removed in the final, approved version.⁷⁹ This was due to the concern that the provision would amount to inappropriate interference with the national laws of the member states on directors' duties⁸⁰ and concerns over potential liability for directors.⁸¹ The rationales for having this provision in the original version of the CSDDD were to harmonize the laws of the member states and to promote legal certainty and clarity, given that divergent regulations among the EU member states on due diligence and directors' duties can lead to distortions of competition.⁸²

The spectre of directors' liability is exaggerated and is often invoked indiscriminately to deter regulatory interventions. It is one thing to require directors, as part of their fiduciary duties, to address negative corporate externalities. It is another thing for the court to impose liability on directors for breaching these duties. The first course of action does

⁷⁸ IFRS Sustainability, 'Biodiversity, Ecosystems and Services and Human Capital Research Projects' (Staff Paper, July 2024) <<https://www.ifrs.org/content/dam/ifrs/meetings/2024/july/issb/ap2b-bees-and-human-capital-research-design.pdf>> accessed 15 March 2025, para 24; Frederick Alexander, 'The ISSB Puts Portfolio Materiality on the Table' (Harvard Law School Forum on Corporate Governance, 6 December 2024) <<https://corpgov.law.harvard.edu/2024/12/06/the-issb-puts-portfolio-materiality-on-the-table/#more-170116>> accessed 15 March 2025.

⁷⁹ European Commission, 'Proposal for a Directive of the European Parliament and the Council on Corporate Sustainability Due Diligence and Amending Directive (EU) 2019/1937' COM (2022) 71 final, art 25.

⁸⁰ Council of the European Union, 'Proposal for a Directive of the European Parliament and of the Council on Corporate Sustainability Due Diligence and Amending Directive (EU) 2019/1937 - General Approach' (30 November 2022) No 15024/1/22 Rev 1, para 31 <<https://data.consilium.europa.eu/doc/document/ST-15024-2022-REV-1/en/pdf>> accessed 15 March 2025.

⁸¹ Steen Thomsen 'Sustainable Corporate Governance and the Road to Stagnation' (*Oxford Business Law Blog*, 14 April 2022) <<https://blogs.law.ox.ac.uk/business-law-blog/blog/2022/04/sustainable-corporate-governance-and-road-stagnation>> accessed 15 March 2025.

⁸² COM (2022) 71 final (n 80).

not necessarily lead to the second. After all, courts are generally reluctant to second-guess directors' decisions, unless there is bad faith, illegality, fraud or conflicts of interest. Indeed, many jurisdictions have the business judgment rule or its equivalent.⁸³

Although the provision was removed in the final version, directors of in-scope companies are required to ensure that the company, of which they are fiduciaries, complies with the CSDDD and CSRD. These regulations can influence the interpretation and enforcement of what constitutes the company's best interests under directors' duty to act in good faith in the company's best interests and what constitutes the standard of care that will be expected of a reasonable director under directors' duty to exercise reasonable care. As one EU commentator observes, while the provision imposing duties on directors was removed, "directors of corporations falling within the Directive's scope of application would still, to some extent, be provided with a new compass: a new standard measure for corporate decision making that change profoundly their fiduciary duty towards the firm and, ultimately, the shareholders as beneficial owners, whether or not these consent."⁸⁴

As emphasized by Lord Sales of the UK Supreme Court in the context of directors' duties and climate change, "the effect of directors' legal obligations cannot be understood simply by referring to the bald statement of them in the relevant legislation. An assessment of the practical implications of those duties has to take into account the general environment of expectation created by initiatives by regulators and in civil society."⁸⁵ Thus, a minimum effect of the CSDDD and CSRD is that it will be difficult for directors of in-scope companies to claim that they are not permitted, or ought not, to consider the impacts of the company's operations on climate change, environment or human rights in their decision-making process, which are not necessarily tied to shareholders' returns.

Commentators have even made a stronger claim in the context of US companies that are subject to CSDDD.⁸⁶ They argue that directors of US companies may breach their *Caremark*⁸⁷ oversight duties, if CSDDD-related risks are central to the company's

⁸³ Keay (n 46).

⁸⁴ Jens-Hinrich Binder, 'Leading Wherever They Want? CSR, ESG and Directors' Duties' in Jens-Hinrich Binder, Klaus Hopt and Thilo Kuntz (eds), *Corporate Purpose, CSR, and ESG* (OUP 2024).

⁸⁵ Lord Sales, 'Directors' Duties and Climate Change: Keeping Pace With Environmental Challenges' (Anglo-Australasian Law Society, Sydney, 27 August 2019).

⁸⁶ Luca Enriques, Matteo Gatti and Roy Shapiro, 'How the EU's Sustainability Due Diligence Directive Could Reshape Corporate America' ECGI Law Working Paper No.817/2025.

⁸⁷ *Caremark*, 698 A.2d 959, adopted by *Stone*, 911 A.2d 362, 365.

operations—such as when these risks are obvious⁸⁸, self-disclosed⁸⁹, or too significant to ignore—and the directors (a) fail to establish a system to identify and report potential issues to the board; (b) disregard red flags from such a system; or (c) approve a business plan that relies on violating the law. Importantly, the breach of *Caremark* duties is independent of whether directors’ conduct or the impact of the company’s operations is tied to shareholders’ financial interests. In the UK context, a prominent scholar has argued that directors “who do not give adequate attention to risk and control functions run an even greater risk of being in breach of their duty to exercise reasonable care, skill and diligence” and “the potential for directors to be held personally liable for failures in risk management oversight and control is considerable”.⁹⁰

3. SOEs

There are two key features of SOEs that are relevant to this paper. First, SOEs are notorious and recalcitrant contributors to climate change. 16 out of the world’s top 20 highest carbon emitting entities in 2023 are SOEs; these 20 emitters account for 40.8% of global fossil fuel and cement CO₂ emissions.⁹¹ Another study finds that approximately 300 SOEs are responsible for GHG emissions equivalent to at least 7.5 billion metric tons of carbon dioxide annually, of which Chinese SOEs account for 69% of the emissions, and Indian SOEs and Russian SOEs 4% each.⁹² Another study reveals that 12 of the top 20 firms responsible for one-third of global greenhouse gas emissions are SOEs.⁹³ Additionally, SOEs own and manage over 70% of oil and gas assets and 60% of coal mines

⁸⁸ Enriques (n 86). The authors give the example of companies that supply products or services to European governments because, given that one of the sanctions of the CSDDD is exclusion from public procurement, companies that do businesses with European governments ought to comply with the CSDDD.

⁸⁹ Ibid. By self-disclosed, the authors refer to companies disclosing environmental or human rights risks as central to the companies or they claim to have complied with CSDDD.

⁹⁰ Ellis Ferran and Pedro Schilling de Carvalho, “Reconciling Shareholder Primacy and the Interests of People and Planet” (2025) L.Q.R. (forthcoming). Directors may be held liable for breaching the duty of care by causing the company to contravene an applicable legislation or by failing to prevent the company from doing so – this is known as the stepping stone liability approach under Australian law: Ian Ramsay and Miranda Webster, ‘An Analysis of the use of Stepping Stones Liability against Company Directors and Officers’ (2021) 50 Australian Bar Review 168. See also the “dog-leg” claim in *Autonomy & Ors v Lynch & Anr* [2022] EWHC 1178 (Ch) in which directors may be held liable for breaching their duties because the company breached a statutory provision on the prohibition of making misleading statements in published accounts.

⁹¹ Carbon Majors: 2023 Data Update (March 2025) < <https://carbonmajors.org/briefing/The-Carbon-Majors-Database-2023-Update-31397> > accessed 15 March 2025.

⁹² Alex Clark and Philippe Benoit, ‘Greenhouse Gas Emissions from State-Owned Enterprises: A Preliminary Inventory’ (Columbia University Center on Global Energy Policy, 3 February 2022).

⁹³ Matthew Taylor and Jonathan Watts, ‘Revealed: the 20 Firms Behind a Third of All Carbon Emissions’, *The Guardian* (9 October 2019).

and plants.⁹⁴ Notably, 65% of the 122 largest historical climate-polluting SOEs have increased their GHG emissions since the Paris Agreement entered into force in 2016.⁹⁵ That said, SOEs play a critical role in decarbonization. For example, more than 50% of planned investments in renewable energy come from SOEs.⁹⁶ Another study finds that SOEs have increased the amount of renewable energies in their energy portfolio from 9% to 23% from 2000 and 2014.⁹⁷ A more recent study of SOEs in 44 countries in key sectors such as utilities and natural resources concludes that SOEs perform better than non-SOEs in areas including CO2 emissions, investments in renewable and natural resource use.⁹⁸ Interestingly, the authors find that SOEs in emerging countries are better at addressing negative externalities and are less good at maximizing shareholder returns. Moreover, another study finds that in the EU, state-owned utilities invest in more renewables than non-state-owned utilities.⁹⁹

The second key feature is that SOEs generally do not have profit maximisation or the promotion of shareholders' financial interests as the sole or main purpose. Rather, SOEs have to pursue a variety of public-oriented, socio-economic objectives such as poverty alleviation, employment creation, environmental protection, industrial development, fiscal stability and protection of strategic industries.¹⁰⁰ And SOEs control and manage key energy systems, public infrastructure, financial services, and technological products.

The OECD regards SOEs as “a main conduit for states to exercise their roles as economic actors.”¹⁰¹ The SOEs can thus be a conduit for governments to implement their net zero targets. For example, countries have included climate-related objectives and targets in their state ownership policies in order to promote a consistent and transparent approach

⁹⁴ Prag (n 8).

⁹⁵ Jonathan Watts, 'Just 57 Companies Linked to 80% of Greenhouse Gas Emissions Since 2016' *The Guardian* (4 April 2024).

⁹⁶ Alexander Pfeiffer and others, 'The '2°C Capital stock' for Electricity Generation: Committed Cumulative Carbon Emissions from the Electricity Generation Sector and the Transition to a Green Economy' (2016) 179 *Applied Energy* 1395.

⁹⁷ *Ibid.*

⁹⁸ Po-Hsuan Hsu, Hao Liang and Pedro Matos, 'Leviathan Inc. and Corporate Environmental Engagement' (2023) 69 *Management Science* 7719.

⁹⁹ Bjarne Steffen, Valerie Karplus and Tobias S. Schmidt, 'State Ownership and Technology Adoption: The Case of Electric Utilities and Renewable Energy' (2022) 51 *Research Policy* 104534.

¹⁰⁰ Paul Rose, 'Dirty SOEs' (2024) 71 *UCLA Law Review Discourse* 98; Luc Bernier, Massimo Florio and Philippe Bance (eds), *The Routledge Handbook of State-Owned Enterprises* (Routledge 2020); On China, see Wendy Leutert, *China's State-Owned Enterprises: Leadership, Reform, and Internationalization* (CUP 2024); On Brazil, see Aldo Muscchio and Sergio G Lazzarini, *Reinventing State Capitalism: Leviathan in Business, Brazil and Beyond* (Harvard UP 2014).

¹⁰¹ OECD, *State-Owned Enterprises and Corruption: What are the Risks and What can be Done?* (OECD Publishing 2018), 11.

to climate mitigation.¹⁰² The Swedish government for instance has required all its SOEs to align themselves with the government's net zero targets, which include identifying, assessing, managing and reporting all material climate-related risks and opportunities.¹⁰³ In China, the controlling shareholder of SOEs, namely, the State-owned Assets Supervision and Administration Commission (SASAC) of the PRC State Council, requires SOEs to formulate plans for carbon emissions reduction and energy conservation.¹⁰⁴

Given the multiple purposes of SOEs, some of which are explicitly climate-related as discussed above, directors have to consider the adverse impacts of the company's operations on climate change and the environment. Because of the multiple objectives of SOEs, directors of SOEs can take into account issues that are not normally considered by shareholders of standard profit maximisation companies who are primarily concerned with financial returns. These issues include intergenerational equity which would have a lower discount rate and hence a higher cost of carbon¹⁰⁵, whereas shareholders of a profit maximisation company would apply a higher discount rate. Other issues that the boards of SOEs could consider include non-financial benefits of the net zero transition such as the health impacts on the members of the community. In short, directors of SOEs have to take into account both financial and impact materiality.

B. Three Arguments in Favour of Directors Addressing the Impacts of the Company's Operations on Climate Change, the Economy or Society

There are at least three legal arguments that can support the claim that directors can and should address the impacts of the company's operations on climate change, the economy or society, even if doing so is either unrelated to or may even adversely impact the financial interests of the company's shareholders (at least in the short-term). These arguments can also lend support to the claim that directors should also consider the interests of diversified investors or universal owners.

The first is when companies incorporate nature-related provisions into their corporate constitutions. The second is for the board to give effect to shareholders' preferences. The third is that in the context of SOEs, there can be an alignment of directors' duty to address consider climate-related or other systemic risks with the fiduciary duties of the controlling shareholder of the SOE, the state, and the state's fiduciary duty as an asset owner.

¹⁰² OECD, *Implementing the OECD Guidelines on Corporate Governance of State-Owned Enterprises: Review of Recent Developments* (OECD Publishing 2020).

¹⁰³ Annette I De Kleine Feige, 'State-Owned Enterprises and Climate Action' (World Bank Group, 2021) 9.

¹⁰⁴ Ibid, 10.

¹⁰⁵ See eg Gareth Davies, 'Climate Change and Reversed Intergenerational Equity: The Problem of Costs Now, for Benefits Later' (2020) 10 *Climate Law* 266.

1. Incorporating Nature into the Corporate Constitution

Consider first the enlightened shareholder primacy model approach which is reflected in s 172 of the UK Companies Act.¹⁰⁶ It requires directors to promote the company's success for shareholders' benefit, and in doing so, to have regard to the interests of non-shareholders including but limited to the impact of the company's operations on the community and the environment. The implication is clear. Insofar as taking into account non-shareholders' interests do not benefit shareholders, directors are not required to do so. However, having regard to the company's interests for shareholder's benefit is a default position. Section 172(2) specifically allows shareholders to modify the corporate constitution such that directors are legally required to promote the success of the company for the benefit of stakeholders, the environment or other entities, in addition to benefitting the members.

Thus, for example, at least three limited liability companies incorporated in the UK have recently incorporated "nature" into their corporate governance structure since 2022.¹⁰⁷ They are part of the broader movement in the UK which seeks to introduce nature-positive corporate governance into the constitutions of limited liability companies.¹⁰⁸ What these companies did was innovative. They amended their articles of association to include five kinds of provisions. Tellingly, none of the provisions requires the company or the directors to link the prescribed or permissible conduct to the financial interests of shareholders. This contrasts with the default position in the UK Companies Act which requires directors to have regard to the interests of the environment and community in order to advance the shareholders' interests.

First, for example, Faith in Nature Ltd, a beauty product company, amended its corporate purpose to state that the objects of the company are to promote the company's success for the benefit of the members as a whole and the company has to use its best endeavours to have a positive impact, and to minimize any harmful impact of its operations, on Nature.¹⁰⁹ Nature is defined by the company as "the natural world and all

¹⁰⁶ *BTI 2014 LLC v Sequana SA* [2022] UKSC 25.

¹⁰⁷ Faith in Nature Ltd; House of Hackney Group Ltd; Betternotstop Ltd. See Isabella Kaminski 'Eco Beauty Company "Appoints Nature" to its Board of Directors' *The Guardian* (22 September 2022); House of Hackney, 'Taking Their Seat at the Table' <<https://www.houseofhackney.com/en-int/pages/nature-our-director?srsId=AfmBOorPfgn6flgb8nrKkEVO121L3Gzp7qYupiujYRowAdBpsPFtYBG>> accessed 15 March 2025; Catherine Sellars, 'Appointing Nature to the Board – Can it be Done?' *Stevens & Bolton* (29 Feb 2024).

¹⁰⁸ This movement was launched by Lawyers for Nature <<https://www.lawyersfornature.com/>> accessed 15 March 2025.

¹⁰⁹ Articles of Association of Faith in Nature Ltd (SC068493) (adopted by special resolution passed on 15 August 2023). Article 3.1.2.1.<
<https://find-and-update.company-information.service.gov.uk/company/SC068493/filing-history>> accessed 15 March 2025. It appears that the definition of Nature encompasses but is broader than climate and environment.

non-human species that inhabit it as represented by the Nature Guardian”.¹¹⁰ House of Hackney, an interior furnishing company, went one step further and required the company to “have due regard for the interests of Future Generations”¹¹¹.

Second, the clause on directors’ duties specifically requires directors to act in a way that they consider in good faith is most likely to promote the success of the company in achieving the corporate objects.¹¹² In discharging their duties, the clause reiterates that directors must have regard to the impact of the company’s operations on Nature and Future Generations.¹¹³ Importantly, a separate clause states that directors need not prioritise the interests of any particular stakeholder which includes shareholders and Nature.¹¹⁴

Third, the companies specifically included a “Nature Guardian” on its board of directors.¹¹⁵ “Nature Guardian” is defined as a director who is tasked with ensuring the board gives due consideration to the environmental or Nature impact of the company’s decision-making process.¹¹⁶ The Nature Guardian is given voting rights (like other directors) in one company¹¹⁷, but the Nature Guardian in another company is not given such a right.¹¹⁸

Fourth, where the board makes any decision on “Nature Reserved Matters” that is not in accordance with the advice of Nature Guardian, the board must give written and recorded reasons for its decision.¹¹⁹

¹¹⁰ *ibid* art 1.1.

¹¹¹ Articles of Association of House of Hackney Group Ltd (10696709) (dated 27 Aug 2024), Article 3.1 <<https://find-and-update.company-information.service.gov.uk/company/10696709/filing-history>> accessed 15 March 2025. “Future Generations” is defined in art 2.1 as “7 generations of humans, plants, and animals on earth from today’s date” i.e. 27 August 2024. For an analysis of how intergenerational equity principles can be integrated into UK company law, see Ben Chester Cheong, ‘A Theoretical Framework for Transformative Corporate Intergenerational Equity’ (2025) 37 J.E.L. (forthcoming).

¹¹² Faith in Nature (n 109) art 3.2; House of Hackney Group (n 111) art 3.2.

¹¹³ Faith in Nature (n 109) art 3.2.1; House of Hackney Group (n 111) art 3.2.1.

¹¹⁴ Faith in Nature (n 109) art 3.3; House of Hackney Group (n 111) art 3.3.

¹¹⁵ Faith in Nature (n 109) art 6.1; House of Hackney Group (n 111) art 4.2.

¹¹⁶ Faith in Nature (n 109) art 1.1; House of Hackney Group (n 111) art 2.1.

¹¹⁷ Faith in Nature (n 109) arts 5.4, 6.1.

¹¹⁸ House of Hackney Group (n 111) art 4.2.2.

¹¹⁹ Faith in Nature (n 109) art 8.2; House of Hackney Group (n 111) art 4.2.6. Nature Reserved Matters refer to matters related to Nature and designated as such as by the board.

Finally, the board of directors is required to provide an annual report to the shareholders concerning the impact of the company's business operations on the environment, and the Nature Guardian must be satisfied with the contents of the report.¹²⁰

These clauses are noteworthy. Directors are legally required to effectuate the objects of the company which expressly include making a positive impact and reducing the negative impact of its operations on nature. In other words, and to put it simply, directors are required to give effect to double materiality. But fundamentally, the shareholder primacy model remains unchallenged for six reasons. This calls into question the efficacy of these pro-nature clauses.

First, it is unclear whose interests should be prioritized or accorded greater weight if they conflict. For example, what if producing a positive impact on Nature such as through making significant investments in renewable energies or divestments from companies with brown assets could adversely impact the short- to mid-term financial interests of the shareholders? Or what if the board decides that it will not phase down the company's brown assets and will instead reinvest part of the profits from brown assets in renewable energies¹²¹, and if so, would it still have discharged its duty to have due regard for the interests of "Nature" or the "Future Generations? The corporate constitution does not provide any guidelines for directors on how to address and balance conflicting interests among shareholders, nature and other stakeholders. The clause that states that directors are not required to prioritize the interest of any stakeholder or Nature is unhelpful. Further, the capaciousness of the term "Nature" in the articles of association, coupled with the discretion given to directors on how they should discharge their duties, make it very difficult to hold directors liable for breaching these duties.

I suggest that if the company is serious about promoting and protecting the interests of Nature, it should amend the constitution to explicitly require directors to prioritise Nature's interests, unless doing so results in significant detriment to shareholders' financial interests or are contrary to the explicit instructions of shareholders.

Second, should directors breach the corporate constitution, only members of the company can enforce the constitution, not the Nature Guardian or any stakeholders. This is because the articles constitute a statutory contract between the company and members.¹²² Even then, under UK law, members of the company can only enforce the constitution if the clause affects them in their capacity as members and not in any other

¹²⁰ Faith in Nature (n 109) art 10; House of Hackney Group (n 111) art 25.

¹²¹ For example, some companies adopt an integrated strategy in which they continue with their fossil fuel operations and investments but also operate or invest in renewable energies. See for eg Matthias J Pickl, 'The Renewable Energy Strategies of Oil Majors - From Oil to Energy?' (2009) 26 Energy Strategy Reviews 100370; Hongfang Lu, Lijun Guo and Yitong Zhang (2019) 'Oil and Gas Companies' Low Carbon Emission Transition to Integrated Energy Companies' (2019) 686 Science of the Total Environment 1202.

¹²² UK Companies Act 2006, s 33.

capacities.¹²³ Thus, based on existing case law, a member is unlikely to succeed in enforcing the corporate objects clause should directors fail to advance the corporate object insofar as it pertains to Nature. This is because it will be difficult for that member to show that the protection of Nature's interests benefits it in its capacity as a member. I suggest that there ought to be a clause in the corporate constitution specifically permitting members of the company or the Nature Guardian to enforce the provisions of the constitution so as to bypass the problematic qua member rule.

Third, however innovative the clauses are, one thing remains unaltered: the right to sue directors for breach of duties in a derivative action lies with the members of the company. Neither Nature Guardian nor stakeholders have the right to bring a derivative action. Thus, a major accountability mechanism is missing. I suggest that there should be a clause permitting the Nature Guardian to bring a derivative action. For example, the corporate constitution can specifically provide for one share to be issued to the Nature Guardian for the purpose of allowing it to bring a derivative action.

Fourth, despite the powers given to the Nature Guardian, the majority of shareholders (more than 50%) can remove it anytime with reasons (in the case of one company)¹²⁴ or without reasons (in the case of another)¹²⁵. Thus, who the majority shareholders are will be crucial. To prevent self-serving shareholders or shareholders who do not agree with the corporate purpose from removing the Nature Guardian, it is suggested that the Nature Guardian can only be removed by an extraordinary resolution (75% or more of shareholders). There should also be restrictions on share transfer in the corporate constitution such that only shareholders who subscribe to the corporate purpose are allowed to acquire the shares and to be registered as members.

Finally, all the pro-nature clauses that are inserted into the articles can be removed or watered down, if shareholders decide to do so in a special resolution which requires 75% of the votes. While the shareholders of these companies are deeply committed to protecting nature, there can be no assurance that should the company need fresh capital from new shareholders, these new shareholders can become the majority, and if they prioritise profit-maximisation, they can remove the pro-nature clauses in the articles of association. If the companies are serious about protecting nature, they should entrench the pro-nature clauses such as by stipulating the requirement that these clauses can only be removed by 90% of shareholders.

Delaware law would also allow the equivalent of nature clauses to be incorporated into the corporate charters of Delaware incorporated companies. As Vice Chancellor Laster pointed out in *McRitchie*, shareholders of a limited liability company are also permitted to amend the corporate constitution to specify that the purpose of the company is to

¹²³ *Hickman v Kent or Romney Marsh Sheep-Breeders' Association* [1915] 1 Ch 881.

¹²⁴ Faith in Nature (n 109) art 9.

¹²⁵ However Article 4.2.7 of the House of Hackney Group requires all the director to consent to the new Nature Guardian.

pursue only businesses that only benefit certain constituencies and do not create externalities that benefit the company but at the expense of the climate or economy as a whole. Further, the corporate constitution can also be amended to state that the business of the company shall be managed for the benefit of certain constituencies and the affairs of the company shall be conducted to that end, and that the powers of directors shall be limited to exercise solely to promote the interests of those constituencies. However, the problems that I mentioned above in relation to the UK companies are also applicable. Unsurprisingly, some commentators have argued that if a company is minded for directors to address negative externalities or to promote the interests of non-shareholders, the company should have been incorporated as a social enterprise which has a distinct legal form in the US (known as the Benefit Corporation) or the UK (known as the Community Interest Company).¹²⁶

2. Directors catering to shareholders' preferences

The second argument that may lend support to the claim that directors can and should consider the effects of the company's operations on climate change or the economy, even if doing so is inconsistent with shareholders' financial interests, is that directors should give effect to shareholders' preferences (if permitted by the corporate constitution and corporate law).

Companies have been under considerable pressure from shareholders and stakeholders to address issues concerning climate change, gun control, LGBTQ+, and other social and environmental issues.¹²⁷ Hart and Zingales argue that the shareholder primacy model of Delaware law is not and should not be equated with maximization of share price.¹²⁸ What Delaware law requires is that directors act in the company's interests for shareholders' benefit. While benefit can be exclusively synonymous with increases in share price, it need not be. It can be equated with giving effect to shareholders' preferences, including but not limited to causes that are not necessarily tied to shareholders' returns ranging from the promotion of social or ethical causes to environmental causes. Thus, for example, boards are not precluded from considering institutional shareholders' environmental and social preferences. Empirical studies have shown that some

¹²⁶ See eg JS Liptrap, 'Delaware Chancery Weighs in on Maximizing Shareholder Value (*The CLS Blue Sky Blog*, 3 October 2024).

¹²⁷ Tom CW Lin, *The Capitalist and the Activist: Corporate Social Activism and the New Business of Change*, (Berrett-Koehler Publishers 2022); Hoa Briscoe-Tran, 'Do Investors Value DEI? Evidence From the Stop WOKE Act' (2024) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4865475> accessed 15 March 2025; Dorothy S Lund, 'Asset Managers as Regulators' (2022) 171 *University of Pennsylvania Law Review* 77.

¹²⁸ Hart and Zingales (n 11).

investors are willing to sacrifice their financial returns in order to promote their environmental or social agendas.¹²⁹

But how should boards accurately and fairly reflect the preferences of the company's shareholders, bearing in mind directors' duty to act fairly toward all shareholders? To begin with, there are different kinds of shareholders with different types and intensities of preferences, ranging on the one end of the spectrum, hard core shareholders who only care about profit maximization and on the other end of the spectrum, shareholders who are willing to prioritize strong environmental and social performance above financial returns. And within the latter group, there could be significant variations as to the specific actions the shareholders would like the board to adopt regarding the company's governance, risk assessment and strategy. Further, the difficulty lies not only with the board ascertaining the shareholders' preferences, but also with asset owners ascertaining the preferences of their beneficiaries. Unsurprisingly, commentators have warned that directors feel "overwhelmed with the scope and complexity of their newfound ESG responsibilities".¹³⁰

For pro-ESG minority shareholders to make meaningful interventions, they have to find out who among them share their preferences and to coordinate among themselves so that they can vote accordingly.¹³¹ This will entail coordination cost.¹³² It is difficult to find out which shareholders are genuinely interested in taking climate action as opposed to those who pay lip service. For example, one study finds that the US signatories to the Principles for Responsible Investment do not have better portfolio ESG scores; the study also finds no evidence that these signatories improved the ESG scores of their portfolio companies.¹³³ Moreover, a 2024 study relating to companies in Europe and the UK found that the world's four largest asset managers were the least supportive of ESG-related resolutions, supporting just 7% of key resolutions and blocking other proposals calling for improved environmental and labour practices, all of which call into question their

¹²⁹ Brad M Barker, Adair Morse and Ayako Yasuda, 'Impact Investing' (2021) 139 *Journal of Financial Economics* 162; Scott Hirst, Kobi Kastiel and Tamar Kricheli-Katz, 'How Much Do Investors Care About Social Responsibility' (2023) *Wisconsin Law Review* 977.

¹³⁰ Yaron Nili and Roy Shapira, 'Specialist Directors' (2024) 41 *Yale Journal on Regulation* 652, 686. However, investors' expectations may not be as heterogeneous as some commentators claim to be. For example, Climate Action 100+, consisting of over 600 global investors, has articulated a common high level agenda consisting of three goals for investors to convey to the boards: (1) implement a governance framework on climate change risk; (2) take action to reduce GHG emissions; and (3) provide corporate disclosure and implement transition plans: Climate Action 100+, *The Three Goals* <<https://www.climateaction100.org/the-three-goals/>> accessed 15 March 2025.

¹³¹ Thilo Kuntz, 'ESG Demand-Side Regulation – Governing the Shareholders' in Jens-Hinrich Binder, Klaus Hopt and Thilo Kuntz (eds), *Corporate Purpose, CSR, and ESG* (OUP 2024).

¹³² *Ibid.*

¹³³ Rajna Gibson Brandon and others, 'Do Responsible Investors Invest Responsibly?' (2022) 26 *Review of Finance* 1389.

public commitments.¹³⁴ Further, there is the risk that coordination may result in a potential violation of competition law, although this can be addressed.¹³⁵

Despite these challenges, empirical studies have shown that investors have deployed different engagement strategies and have successfully pressured boards to consider their ESG preferences. There are at least four engagement mechanisms through which shareholders can influence boards.¹³⁶ The first is including shareholders' ESG preferences in executive compensation contracts. The second is for shareholders to submit their proposals onto the agenda of general meetings. Third, shareholders can engage informally by having closed-door meetings with the board. Finally, shareholders can enter into contracts with the company under which the board must take, prohibit, or refrain from taking, certain actions.

On the first mechanism, institutional investors have pressured boards to align the executive compensation of boards and management with the ESG preferences of shareholders in executive compensation contracts. For example, one study finds that executive compensation contracts that take into account investors' preferences expressed in say on pay votes have resulted in improvement in the ESG performance of companies by 10% and have caused companies to adopt more environmentally friendly policies.¹³⁷ This is consistent with the findings of a global survey of over 1000 companies that ESG metrics are used in 81% of executive incentive plans.¹³⁸ Another study finds that there has been tenfold increase in companies linking CEO pay to ESG metrics from 2018 to 2021.¹³⁹

The second mechanism by which shareholders pressure boards to incorporate climate or ESG preferences is by submitting shareholder proposals. However, there are statutory restrictions on shareholders' ability to do so.¹⁴⁰ That said, one study finds that while

¹³⁴ ShareAction, 'Voting Matters 2024: Are Asset Managers Using Their Proxy Votes for Action on Environmental and Social Issues?' (February 2025) 15. The 4 largest asset managers are BlackRock, Vanguard, Fidelity and State Street.

¹³⁵ See eg, Simon Holmes, "Climate change, sustainability, and competition law" (2020) 8 Journal of Antitrust Enforcement 354.

¹³⁶ Note that these four mechanisms will vary between jurisdictions.

¹³⁷ Mary Ellen Carter, Andrea Pawliczek and Rong Irene Zhong, 'Say on ESG: The Adoption of Say-on-Pay Laws, ESG Contracting, and Firm ESG Performance' (2022) European Corporate Governance Institute – Finance Working Paper No 886/2023; Shira Cohen and others, 'Executive Compensation Tied to ESG Performance: International Evidence' (2023) 61 Journal of Accounting Research 805.

¹³⁸ Shai Ganu and others, 'Global Report on ESG Metrics in Incentive Plans 2023' (WTW 23 January 2024).

¹³⁹ Edna Twumwaa Frimpong, 'The Growing Influence of ESG in Executive Compensation' (*Reward & Employee Benefits Association*, 22 September 2021) <<https://reba.global/resource/the-growing-influence-of-esg-in-executive-compensation.html>> accessed 15 March 2025.

¹⁴⁰ ClientEarth, Know Your Rights: A Guide for Institutional Investors to the Law on Climate-Related Shareholder Resolutions (October 2021); ClientEarth, Net Zero Engagement in Asia: A Guide to Shareholder Climate Resolutions (November 2022).

shareholder proposals are not common, they can be effective, even if they are withdrawn, as 45% of environmental shareholder proposals in Canadian firms are successful and these proposals lead to an improvement in environmental and social performance.¹⁴¹

The third mechanism by which shareholders can influence the board is by privately communicating with the board.¹⁴² It has also been argued that private engagements may be the most effective type of activism.¹⁴³ One study finds that there is causal link between reduced carbon emissions and increased percentage of shares held by Big 3 index funds, suggesting that when Big 3 firms own more shares in high emitting companies, they are more likely to engage via calls and in-person meetings.¹⁴⁴ Another study finds that the engagements in the form of meetings with boards account for the majority of successful engagements, and shareholders' proposals are used only to increase the bargaining power of institutional shareholders.¹⁴⁵

Finally, pro-environmental or pro-social controlling shareholders may enter into agreements with the company under which it is required to take certain actions to protect the environment or it is prohibited from taking certain actions that harm the environment by making use of the newly added section 122(18) of the Delaware General Corporation Law. This new provision permits companies to enter into agreements with their shareholders under which directors can be required to take, or to refrain from taking, certain actions, as long as these agreements are not contrary to the corporate constitution or illegal.¹⁴⁶

However, the majority of the empirical studies in which the institutional investors who pressure the board to include environmental or social preferences are primarily

¹⁴¹ Alexander Dyck and others, 'Do Institutional Investors Drive Corporate Social Responsibility? International Evidence' (2019) 131 *Journal of Financial Economics* 693.

¹⁴² Elroy Dimson, Oguzhan Karakas and Xi Li, 'Active ownership' (2015) 28 *The Review of Financial Studies* 3225; Shira Cohen and others, 'Executive Compensation Tied to ESG Performance: International Evidence' (2023) 61 *Journal of Accounting Research* 805; Joseph A McCahery, Zacharias Sautner and Laura T Starks, 'Behind the Scenes: The Corporate Governance Preferences of Institutional Investors' 71 *Journal of Finance* 2905; Amir Amel-Zadeh and George Serafeim, 'Why and How Investors Use ESG Information: Evidence From a Global Survey' (2018) 74 *Financial Analysts Journal* 87.

¹⁴³ Marco Becht and others, 'Returns to Shareholder Activism: Evidence From a Clinical Study of the Hermes UK Focus Fund' (2009) 22 *The Review of Financial Studies* 3093.

¹⁴⁴ Jose Azar and others, 'The Big Three and Corporate Carbon Emissions Around the World' (2021) 142 *Journal of Financial Economics* 674.

¹⁴⁵ Alexander Dyck and others, 'Do Institutional Investors Drive Corporate Social Responsibility? International Evidence' (2019) 131 *Journal of Financial Economics* 693.

¹⁴⁶ I am grateful to Vice Chancellor Travis Laster for this point.

motivated by financial considerations¹⁴⁷, as climate-related risks are financially material to many sectors. Many of the empirical studies also show that after the board incorporated the environmental and social preferences of the shareholders, there was an increase in long-term shareholder returns.¹⁴⁸ Further, consistent with these findings is that a recent study surveying 509 equity portfolio managers (from traditional funds and funds marketed as sustainable) finds that most of the investors, including a majority of the sustainable funds, would not voluntarily sacrifice even one basis point of return to advance environmental and social goals, citing their fiduciary duty to clients.¹⁴⁹

Thus, the majority of the studies do not seem to support the point that boards should sacrifice firm-specific financial returns of shareholders in order to address climate change or other systemic risks. In other words, because only a handful of studies show that shareholders are willing to sacrifice financial returns in exchange for the promotion of environmental or social agenda, boards should be cautious of catering to shareholders' preferences as a justification for addressing climate or other systemic risks that is not linked to or may even adversely impact shareholders' returns.

Last but not the least, the ability and willingness of shareholders to submit ESG proposals at least in the context of US companies are hampered by the rising anti-ESG movement¹⁵⁰ and the threat of companies suing shareholders.¹⁵¹

3. SOEs: Aligning directors' fiduciary duties with the fiduciary duties of the controlling shareholder and the asset owner

a. Fiduciary duties of directors and the controlling shareholder of SOEs and the fiduciary duties of the state as the asset owner

Discussions of directors' duties in the contexts of climate change or ESG usually proceed on the assumption that the company in question is a conventional for-profit-

¹⁴⁷ Dimson (n 142); Elroy Dimson, Oguzhan Karakas and Xi Li, 'Coordinated Engagements' (2018) European Corporate Governance Institute – Finance Working Paper No 721/2021; Steven Johnson, "ESG Fund Outflows Hit Record As Sustainable Investing Backlash Grows" Financial Times (25 April 2025).

¹⁴⁸ Tamas Barko, Martijin Cremers and Luc Renneboog, 'Shareholder Engagement on Social, Environmental, and Governance Issues' (2022) 180 Journal of Business Ethics 777.

¹⁴⁹ Alex Edmans, Tom Gosling and Dirk Jenter, 'Sustainability Investing: Evidence from the Field' (2024) European Corporate Governance Institute – Finance Working Paper No 1028/2024.

¹⁵⁰ See eg, Taylor Nchako and Lisa Benjamin, 'ESG Backlash in the United States -Investor Concerns or 'Red Scare'?' (September 10, 2024) <<https://ssrn.com/abstract=5003794>>.

¹⁵¹ Exxon Mobil Corporation v Arjuna Capital LLC et al (No. 4:24-cv-00069-P) (17 June 2024) <https://climatecasechart.com/wp-content/uploads/case-documents/2024/20240617_docket-424-cv-00069_order.pdf>.

maximisation company. Likewise, discussions of investors' duties in those contexts simply assume that the investors are large institutional investors (such as the Big 3) or pension fund trustees. However, as analysed in Part III(A)(3) above, among the largest GHG contributors are SOEs. Importantly, SOEs are established to pursue a variety of commercial and non-commercial objectives including the promotion of social and economic development, the generation of employment, and the provision of goods and services such as access to affordable energy. And the government (or its controlled entity) is often both a controlling shareholder¹⁵² of SOEs and a key asset owner as its portfolio contains SOEs and non-SOEs.¹⁵³ Three important implications arise from these facts.

First, as SOEs are established to pursue both commercial and non-commercial purposes, what constitutes the best interests of the company under the directors' duty to act in the company's best interests, cannot be primarily, let alone exclusively, determined by the financial interests of shareholders. For example, state-owned power companies were established to provide low-cost electricity to drive economic development and to allow governments to control strategically critical sectors.¹⁵⁴ Thus, in discharging their fiduciary duties to act in good faith in the best interests of the company—the SOE in question, directors of the SOE are and should be permitted, and may even be required, to consider the effects of corporate actions on climate change, the economy or society, even if doing so will reduce the financial returns of the SOE's shareholders, as long as the directors are not precluded by the corporate constitution or the statute from doing so.¹⁵⁵ Further, as for directors' duty to exercise reasonable care, as the standards of reasonable care will be affected by the nature and size of the company as well as industry norms and standards, directors are unlikely to be in breach of this standard if they cause the company to internalise its negative externalities. In other words, this analysis does not depart from the firm-specific model emphasized in *McRitchie* but rather is an affirmation of it. The firm-specific model of the SOE requires or

¹⁵² In this paper, a government or state controlling shareholder is defined as: (i) the state's ability to exercise or control at least 30% of the voting rights in a general meeting or influence the composition of the board of directors (eg, UK Financial Conduct Authority: Listing Rules (Sovereign Controlled Commercial Companies) Instrument 2018 (2018/27 FCA 2018/27); Hong Kong Stock Exchange Listing Rules, Ch. 1, para. 1.01); or (ii) the state's capacity to oversee key governance, management, or business decisions of a company.

¹⁵³ Examples of asset owners include but are not limited to Norges Bank Investment Management (Norway), Temasek Holdings (Private) Limited (Singapore) and State Development and Investment Corporation (China).

¹⁵⁴ Sergio G Lazzarini and others, 'Leviathan as an Inventor: An Extended Agency Model of State-owned versus Private Firm Invention in Emerging and Developed Economies' (2021) 52 *Journal of International Business Studies* 560; Curtis Milhaupt, 'The State as Owner—China's Experience' (2020) 36 *Oxford Review of Economic Policy* 362.

¹⁵⁵ However, there is the risk that because it is challenging to balance and weigh a multitude of considerations that may conflict with each other, directors may use this as a pretext to advance their own interests.

permits its directors to consider the interests of non-firm-specific considerations because the firm—here the SOE—has been established to do so.

Second, given that what determines the best interests of an SOE consist of both commercial and non-commercial considerations, insofar as the state (or its controlled entity) as a controlling shareholder is subject to fiduciary duties as is the case in certain jurisdictions¹⁵⁶, the state as a controller can legitimately sacrifice its own financial returns in the SOE in order to address broader considerations pertaining to climate change or the economy. Or the state as the controller may be obliged to address climate-related risks that is aligned with climate-related national legislation. Further, because the controlling shareholder is the state, and not merely any institutional investor or family firm (however large and influential), the state must act in the public interest.¹⁵⁷ Acting in the public interest would require the state to balance a variety of financial and non-financial considerations to promote the common good as opposed to the narrow pursuit of financial returns.¹⁵⁸

Further, the state (or its controlled entity) as the controlling shareholder of the SOE may pressure directors to adhere to its demands or the state can induce the board to take certain actions that are aligned with its preferences by offering the SOE incentives such as subsidies or preferential financing. Directors may be at risk of removal if they defy the controller's wishes or new directors who are aligned with the controller's expectations may be appointed. In SOEs with a strong political patronage or oversight system, directors who are appointed by the controller are more likely to heed the controller's wishes.¹⁵⁹ As a result, how directors discharge their duties can be aligned with the controlling shareholder's preferences.¹⁶⁰

¹⁵⁶ In China, Delaware and Germany, for example, controlling shareholders are subject to fiduciary duties (or duty of loyalty) under certain circumstances: PRC 2024 Company Law, section 180, 192; *Jones v. H.F. Ahmanson & Co* 460 P.2d 464 (Cal. 1969); *In re Sears Hometown and Outlet Stores, Inc. Stockholder Litigation*, 2024 WL 262322 (Del. Ch. Jan. 24, 2024); BGH 1.2.1988, II ZR 75/87; see C. Gerner-Beuerle and M. A. Schillig, *Comparative Company Law* (OUP 2019) 626-630.

¹⁵⁷ Ernest Lim, "The Government Controlling Shareholder as a Fiduciary: Implications for Climate Change Management and Litigation" (2024) 35 *European Business Law Review* 311.

¹⁵⁸ One difficulty relates to what amounts to public interest. Another problem is that there is a risk that the government controlling shareholder may extract private benefits of control to the detriment of the minority shareholders and the public: see eg, Andrei Shleifer and Robert W Vishny, *The Grabbing Hand: Government Pathologies and Their Cures* (Harvard UP 202); Ernest Lim, 'Concentrated Ownership, State-Owned Enterprises and Corporate Governance' (2021) 41 *Oxford Journal of Legal Studies* 663.

¹⁵⁹ Lauren Yu-Hsin Lin and Curtis J. Milhaupt, "Party Building or Noisy Signaling? The Contours of Political Conformity in Chinese Corporate Governance" (2021) 50 *Journal of Legal Studies* 187.

¹⁶⁰ One study of key state-owned power companies in six countries finds that the government as a shareholder of these companies can exert powerful influence over them (with respect to decarbonization activity): Philippe Benoit and others, 'Decarbonization in State-owned Power Companies: Lessons from a Comparative Analysis' (2022) 355 *Journal of Cleaner Production* 131796. This implies that there can be an alignment of the board duties with the preferences of the state as the shareholder. That said, the study argues that the extent to which directors will be susceptible to the controller's pressure or incentives will depend on the degree of autonomy that the SOE (or its board) has and the capacity that the SOE has such

For all the above reasons, there can be an alignment of directors' duties with the controlling shareholder's fiduciary duties because both duties require the directors and the controlling shareholder to consider the impacts of corporate operations on climate change or the economy. Both duties require the fiduciary in question – the director and the controlling shareholder – to balance the broad economic and social goals of the government with the shareholders' financial interests.

Finally, the state (or its controlled entity) is not merely a controlling shareholder of the SOE, but it is also often a diversified asset owner whose portfolio of investments contains that SOE as well as other SOEs and non-SOEs.¹⁶¹ The state, as the asset owner, also owes fiduciary duties, not to the SOE in question, but to the beneficiaries.¹⁶² Because the state (or its controlled entity) as the asset owner owes fiduciary duties to the beneficiaries and not to the individual SOE in question, the purposes of the SOEs will not shape the contents of the asset owner's fiduciary duties, unlike the contents of the fiduciary duties of the directors or the controlling shareholder. However, this does not mean that the state as the asset owner is not permitted to or should not address climate change or other systemic considerations. It is the opposite. As an asset owner, it is required to promote the long-term risk adjusted returns of its beneficiaries. As an asset owner, it can and should consider all material considerations, which include mitigating climate change and other systemic risks, if these have a material impact on the long-term risk adjusted returns of its beneficiaries. In other words, climate risks and opportunities are financially material factors. As to how asset owners should consider climate-related considerations, the UK Financial Markets Law Committee has advised that financial factors—of which climate change is a material component—need to be considered at the level of a specific asset or investment, at a portfolio level, and at the level of whole economies material to the fund.¹⁶³

Thus, the government, as an asset owner and as a diversified investor, is ultimately or fundamentally concerned with the overall economic performance as this has a material bearing on the financial returns of its portfolio. This is consistent with the claim that asset owners, as fiduciaries, are required to balance returns against risks.

that the board can implement its strategies. Further, the degree of the state's control over the SOE will also influence the extent to which the directors will be susceptible to its demands: Arjuna Dibley, 'When Does "Leviathan" Innovate? A Legal Theory of Clean Technological Change at State-Owned Electric Utilities' (2023) 47 *Harvard Environmental Law Review* 135, 151-8.

¹⁶¹ For examples of asset owners, see (n 153).

¹⁶² Financial Markets Law Committee, *Pension Fund Trustees and Fiduciary Duties: Decision-Making in the Context of Sustainability and the Subject of Climate Change* (6 February 2024) [2.3]-[2.6]; UNEP and PRI, *Fiduciary Duty in the 21st Century: Final Report* (2019).

¹⁶³ *Ibid*, Financial Markets Law Committee [6.6].

Accordingly, the government, as an asset owner, a diversified investor, will be concerned with, for example, whether the CO2 emissions of a particular carbon-intensive SOE in its portfolio increase or reduce the overall performance of the economy as whole, which will impact the financial returns of its beneficiaries. Thus, the asset owner ought to have an incentive to internalize the negative externalities of one SOE in its portfolio, if the failure to do so will adversely impact on the overall economic performance, and by extension its portfolio. The asset owner would be willing to sacrifice its returns that will be generated by that particular company in order to enhance the overall returns of the portfolio. Conversely, the government as the asset owner will be disincentivized from causing one of its portfolio companies to internalize its externalities if doing so outweighs the financial benefits to its overall portfolio of investments.

That the asset owner is a state (as opposed to a hedge fund or mutual fund) further supports the argument that directors' fiduciary duties can be aligned with the asset owner's fiduciary duties because the directors and the state will take a long-term approach. One potential objection to aligning directors' duties with an asset owner's duties is that directors are required to act in the company's long-term interests, whereas an investor need not. Thus, investors can take a short term approach and will not be in breach of their duties. For example, hedge funds have short-term investment horizons,¹⁶⁴ unlike a state-based pension fund owner that takes a long term approach.¹⁶⁵ One reason is this: companies are formed to last indefinitely (unless wound up voluntarily or involuntarily). So directors have to promote the long term interests of company. But a fund is not formed to last indefinitely from a legal standpoint. The other reason is that different kinds of funds will have different mandates and will have different time-horizons, some are short-term and others are long-term. But because the investor here is the state who is the asset owner, it is likely to take a long-term approach towards promoting the beneficiaries' interests. Taking a long-term approach implies that directors of SOEs are not pressured to maximise shareholders' returns and asset owners are not pressured to maximise short-term returns for their beneficiaries. More importantly, directors can take into account broader and long-term considerations such as the effects of the company's operations on climate change, issues such as intergenerational equity¹⁶⁶, the health of the community, and socio-economic inequality. The state as the asset owner can and should take these considerations insofar as these impact on the long-term risk adjusted returns of the beneficiaries.

For all the above reasons, there can be an alignment of the fiduciary duties of the director, the state as the controlling shareholder and the state as an asset owner. This is because in each of these duties, the fiduciary is permitted to consider the impacts of the

¹⁶⁴ See eg, John C Coffee Jr and Darius Palia, 'The Wolf at the Door: The Impact of Hedge Fund Activism on Corporate Governance' (2016) 1 *Annals of Corporate Governance* 1; Leo E. Strine Jr. 'Can We Do Better by Ordinary Investors? A Pragmatic Reaction to the Dueling Ideological Mythologists of Corporate Law Essay' (2014) 114 *Columbia Law Review* 449.

¹⁶⁵ See eg, Norges Bank Investment Management (Norway), Government Pension Investment (Japan) and Canada Pension Plan.

¹⁶⁶ Davies (n 105).

company's operations on climate change or the economy, even if doing is not connected to or may even adversely affect the financial returns of the firm-specific shareholders. But the grounds for doing so are different. For the fiduciaries who are directors, they must act in the SOE's best interests.¹⁶⁷ Insofar as the controlling shareholder is subject to fiduciary duties, it too must act in the best interests of the SOE. However, as for the fiduciary who is the asset owner, it must act in the best interests of its beneficiaries. The directors and the controller have to balance both financial and non-financial considerations to discharge their duties to act in the SOE's best interests. The asset owner has to take into account any material considerations that impact on long-term risk adjusted returns in order to discharge its duty to act in its beneficiaries' best interests.¹⁶⁸

The significance of considering climate or other systemic level considerations such as those pertaining to the economy, even if doing so is not connected to or is at the expense of the financial returns of the company's shareholders, can be illustrated with a concrete example: Chinese SOEs.

b. Chinese SOEs

China is the world's largest GHG emitter¹⁶⁹ and the world's second largest economy¹⁷⁰. In 2020, China has announced that CO₂ emissions will peak before 2030 and has pledged to reach net zero emissions by 2060.¹⁷¹ SOEs in China play an indispensable role as both carbon emitters and renewable energy producers. Regarding the former, SOEs are responsible for 50% of China's CO₂ emissions, producing six gigatons of CO₂ per year.¹⁷²

¹⁶⁷ In China, there are at least two cases (not related to the climate change context) in which the minority shareholders of SOEs sued the directors for breach of duties: *Shaanxi Xixia Electric Power Real Estate Development Co., Ltd. and Xi'an Luneng Real Estate Co., Ltd. v. Ding Yong et al.* (2020) Shan Min Zhong No. 546, Shaanxi High People's Court (西安鲁能置业有限公司与丁勇等, 陕西西夏电力房地产开发有限公司损害公司利益责任纠纷); *Sichuan Nanbu Hongyanzi Electric Power Co., Ltd. v. Zhang Guangfu et al.* (2019) Chuan 1321 Min Chu No. 3085, People's Court of Nanfang County, Sichuan Province (四川省南部红岩子电力有限责任公司与张光福、贾超琼损害公司利益责任纠纷).

¹⁶⁸ Of course, it is entirely possible that there can be no alignment. The directors of the SOE may legitimately prioritise shareholders' financial returns above climate change mitigation. However, while this decision may be protected by the business judgement rule (or its equivalent), insofar as this decision is contrary to the preferences of the controlling shareholder, directors run the risk of being removed.

¹⁶⁹ IEA, 'The Changing Landscape of Global Emissions' <<https://www.iea.org/reports/co2-emissions-in-2023/the-changing-landscape-of-global-emissions>> accessed 15 March 2025.

¹⁷⁰ World Bank Group, 'GDP Ranking' (18 December 2024) <<https://datacatalog.worldbank.org/search/dataset/0038130>> accessed 15 March 2025.

¹⁷¹ UN News, 'China Headed Towards Carbon Neutrality by 2060; President Xi Jinping vows to halt new coal plants abroad' (21 September 2021).

¹⁷² John Lin and Philippe Benoit, 'China's State-Owned Enterprises Hold Keys to Carbon Neutrality', *Alliance Bernstein* (14 September 2022).

SOEs are the largest fossil fuel producers in China¹⁷³. 12 Chinese SOEs account for 52% of global coal production.¹⁷⁴ The coal producing SOEs emit 4.61 billion tons of CO₂ per year.¹⁷⁵ The five largest electricity generators are SOEs, of which the largest one, Huaneng Power International, releases 317 million metric tons of emissions per year, almost close to the annual emissions of the UK.¹⁷⁶ That said, the Chinese SOEs are also leaders in renewable and clean energies such as hydroelectric, wind and solar.¹⁷⁷ As of 2023, SOEs accounted for 65% of new wind capacity.¹⁷⁸ For example, Huaneng Power International has spent 70% of its annual investment in low-carbon energy since 2010.¹⁷⁹ Thus, SOEs are critical to the PRC government's decarbonization policy.¹⁸⁰

Unlike shareholders of a conventional profit maximization company who will usually prioritise financial returns, the Chinese government (or more precisely the SASAC) as the controlling shareholder of SOEs have other goals such as ensuring affordable access to energy, social development and economic growth.¹⁸¹

SOEs play an indispensable role in China¹⁸²; they are fundamental to any analysis of China's approach to climate change mitigation. I will use coal-fired power plant SOE as an example here because coal-fired power plants provide the bulk of electric power

¹⁷³ Michael R Davidson, 'Low-Carbon Transition Planning in China's Coal and Power Soes: Case of China Energy' (2022) <<https://ssrn.com/abstract=4124504>> accessed 15 March 2025.

¹⁷⁴ "Coal and Lignite production," Enerdata, 2023 <<https://yearbook.enerdata.net/coal-lignite/coal-production-data.html>> accessed 15 March 2025.

¹⁷⁵ Alex Clark and Philippe Benoit, 'Greenhouse Gas Emissions From State-Owned Enterprises: A Preliminary Inventory' (*Center on Global Energy Policy*, 3 February 2022).

¹⁷⁶ TRT World, 'China's Giant State-owned Firms Pollute More Than Entire Nations' <<https://www.trtworld.com/asia/china-s-giant-state-owned-firms-pollute-more-than-entire-nations-51309>> accessed 15 March 2025.

¹⁷⁷ Edward White, 'China's 'Dinosaur' State-Owned Enterprises Make a Green Pivot' *The Financial Times* (3 January 2024).

¹⁷⁸ Fang Zhang, 'Leaders and Followers in Finance Mobilization for Renewable Energy in Germany and China' (2020) 37 *Environmental Innovation and Societal Transitions* 203.

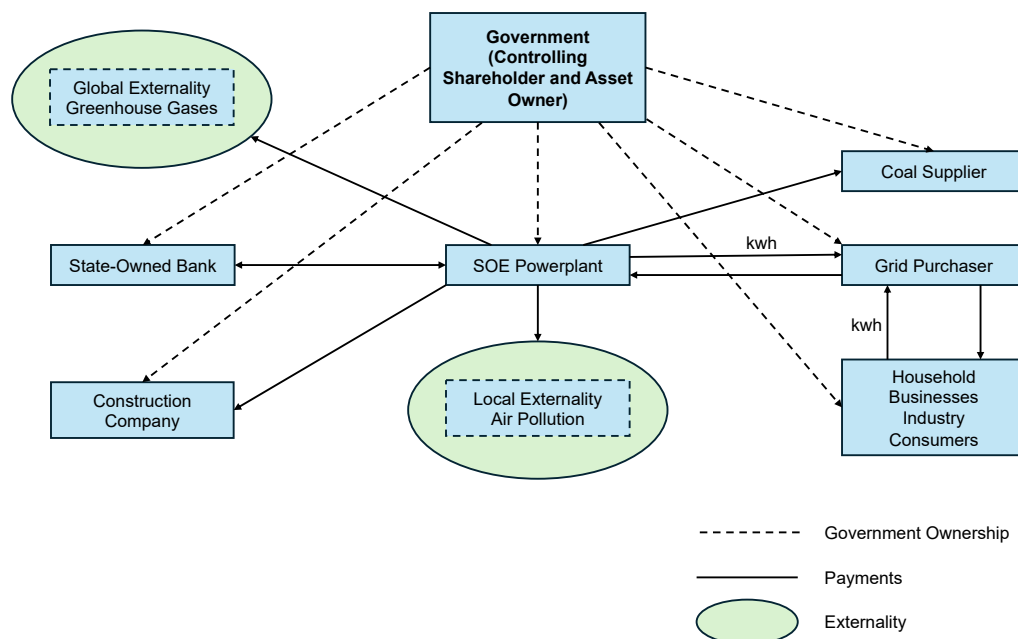
¹⁷⁹ 'Huaneng Power International Makes New Strides in Green Energy' *GreenergyDaily.com* (6 June 2019) <<https://hxny.com/nd-41695-0-17.html>> accessed 15 March 2025

¹⁸⁰ Zhang Fang and Zuo Jialu, 'State-Owned Enterprises' Responses to China's Carbon Neutrality Goals and Implications for Foreign Investors' (*Georgetown Journal of International Affairs*, 15 Feb 2023).

¹⁸¹ Benoit Mayer, Mikko Rajavuori and Mandy Meng Fang, 'The Contribution of State-Owned Enterprises to Climate Change Mitigation in China' (2017) 7 *Climate Law* 97.

¹⁸² Curtis J. Milhaupt, 'Party-State, Inc. – Chinese State Capitalism 2.0' in Jeffrey N. Gordon and Wolf-Georg Ringe (eds), *Oxford Handbook of Corporate Law and Governance* (OUP, 2d ed. forthcoming 2024).

which has been a key driving force behind China's economic and social development.¹⁸³ It is the dirtiest of the fossil fuels and China's coal fired power capacity constitutes two-thirds of the global aggregate, accounting for 47.4 gigawatts (GW) out of the global total of 69.5GW.¹⁸⁴ And, interestingly, China continues to build coal fired power plants despite its net zero targets. For example, China is responsible for 95% of new coal fired power construction globally in 2023.¹⁸⁵ Domestically, coal fired power plants account for 79% of CO2 emissions by fuel.¹⁸⁶



As evident from the diagram above¹⁸⁷, the Chinese government (or its controlled entity) is not merely a controlling shareholder of a coal-fired plant, but it (or its controlled entity) is also the controlling shareholder of other SOEs which transact with that coal-fired plant: the bank that provides financing, the construction company that builds the plant, and the grid purchaser. The government did not build the coal-fired plant merely for financial

¹⁸³ Chi Zhang and others, 'On Electricity Consumption and Economic Growth in China' (2017) 76 Renewable and Sustainable Energy Reviews 353. In 2019, the IEA estimated that coal power accounted for 50% of China's CO2 emissions: IEA, Global Energy Review 2019: CO2 emissions <<https://www.iea.org/reports/global-energy-review-2019/co2-emissions>> accessed 15 March 2025.

¹⁸⁴ Global Energy Monitor, 'Global Coal Fleet Inches Up As Retirements Drop, Construction Starts Seesaw' (10 April 2024) <<https://globalenergymonitor.org/press-release/global-coal-fleet-inches-up-as-retirements-drop-construction-starts-seesaw/>> accessed 15 March 2025.

¹⁸⁵ Molly Lempriere, 'China Responsible For 95% of New Coal Power Construction in 2023, Report Says' CarbonBrief (4 November 2024) <<https://www.carbonbrief.org/china-responsible-for-95-of-new-coal-power-construction-in-2023-report-says/>> accessed 15 March 2025.

¹⁸⁶ IEA, 'China' <<https://www.iea.org/countries/china/emissions#what-are-the-main-sources-of-co2-emissions-in-china>> accessed 15 March 2025.

¹⁸⁷ This diagram is modified from Lin and Benoit (n 172).

gains, but also to provide affordable and easy access to energy for consumers and businesses, while seeking to ensure that these plants remain profitable.¹⁸⁸ The Chinese government (or its controlled entity) is also an asset owner or a diversified investor.¹⁸⁹

Two points should be emphasised. First, for the director and controller shareholder of the SOE coal fired power plant, it is not so simple as pursuing shareholder returns for that SOE. The coal fired power plant SOE is enmeshed within a system of other SOEs. The government is the controlling shareholder of that SOE and other SOEs. The government is also an asset owner whose portfolio contains that SOE and other companies comprising SOEs and non-SOEs. Thus, the directors and controlling shareholder of the SOE cannot be concerned exclusively with the maximisation of shareholder returns of that SOE. They should consider how the externalities produced by the SOE (including but not limited to health and environmental harms) could affect the households and business as well as state-owned banks who provide the financing. Directors and the controller must also consider issues of just transition¹⁹⁰—to what extent and how coal fired power plants can be phased down bearing in mind that this will cause unemployment to the workers of the coal fired power plant and the coal supplier, while considering the availability and affordability of clean energy substitutes. These are complex considerations involving difficult trade-offs that go beyond the maximisation of shareholder returns. Directors and the controlling shareholder of the SOEs must also consider how to balance the economic gains from continuing with coal fired power plants with the state's net zero ambitions.

This brings us to the second, interesting point: a key reason why investments in and constructions of coal-fired power plants have increased in China, despite the government's net zero emissions targets, is that the government is likely to have taken the view that the economic benefits of continuing or increasing coal-fired power plants outweigh the costs of doing so for a certain period of time.¹⁹¹ These broader economic considerations are different from and go beyond considerations related to the financial returns of the firm-specific shareholders. For a standard profit maximisation company that is set up primarily to maximise shareholder financial returns, the directors will adopt a plant level financial analysis -- they will consider climate risks because they have to know when the company's assets will become stranded, which will severely impact the company's financial interests, and by extension, shareholders' returns. Many studies demonstrate that stranded assets will increase the company's cost of capital, depletes

¹⁸⁸ Lin and Benoit (n 172).

¹⁸⁹ Pangyue Cheng, Institutional Investors in China: Problems and Prospects (2022) 2 Columbia Business Law Review 664, 672-683.

¹⁹⁰ Gang He and others, 'Enabling a Rapid and Just Transition Away From Coal in China' (2020) 3 One Earth 187.

¹⁹¹ Alex Clark, Philippe Benoit and Jonathan Walters, 'Government Shareholders, Wasted Resources and Climate Ambitions: Why is China Still Building New Coal-Fired Power Plants?' (2023) 23 Climate Policy 25.

its cash flow, and escalate its insurance premium.¹⁹² For example, one study predicts that by 2050, 45% of the US\$927 billion global power sector will be stranded.¹⁹³ Another study estimates US\$15-53 billion of coal will be stranded by 2030.¹⁹⁴

If coal fired power plants face severe stranding risks, it is puzzling that Chinese SOEs are building more coal fired power plants (in tandem with investments in renewable energies). An important insight from an illuminating article by Clark, Benoit and Walters is that the Chinese government is likely to have taken the view that the broader economic benefits outweigh the costs.¹⁹⁵ This implies that directors and the controlling shareholder of the SOEs are likely to have taken into account broader economic considerations such as whether and to what extent the economic benefits of building more and continuing with existing coal-fired plants at the country-specific level, as opposed to at the firm-specific SOE level, outweigh the costs.¹⁹⁶ The directors and the controlling shareholder of the SOE could not have merely adopted a narrow financial analysis of the profitability of that coal-fired plant. Otherwise, they would have phased down or even phased out the coal fleet as it will be highly unprofitable. Instead, they have been building more coal fired power plants.

The authors show the difference between considering broader economic considerations and firm-specific financial considerations.¹⁹⁷ As for economic considerations, the cost benefit analysis goes all the way down to the value chain—to the consumers—calculated according to their willingness to pay for the electricity after deducting the cost of transmission and distribution for delivering the power. As for firm level financial considerations, the cost benefit analysis is restricted to the profits generated from the coal fired power plant based on the revenues generated from the sale of electricity after deducting the costs of construction and delivery. Another difference between country-level economic and firm-level financial considerations lies in the valuation techniques. A financial valuation uses a private discount rate based on the company's weighted average cost of capital to the equity holders, whereas an economic valuation uses a

¹⁹² Weirong Zhang and others, 'Quantifying Stranded Assets of the Coal-Fired Power in China Under the Paris Agreement Target' (2023) 23 *Climate Policy* 11.

¹⁹³ Deger Saygin and others, 'Power Sector Asset Stranding Effects of Climate Policies', (2019) 14 *Energy Sources, Part B: Economics, Planning and Policy* 99.

¹⁹⁴ Haonan Zhang, Xingping Zhang and Jiahai Yuan, 'Transition of China's Power Sector Consistent with Paris Agreement into 2050: Pathways and Challenges' (2020) 132 *Renewable and Sustainable Energy Reviews* 110102.

¹⁹⁵ Clark, Benoit and Walters (n 191).

¹⁹⁶ It should be clarified that SOEs are not a monolithic entity. In China, a distinction has to be drawn between provincial and national SOEs, which can be driven by different economic incentives. A provincial SOE may make decisions that benefit that province but not the country as a whole. For example, where a provincial SOE is under significant pressure to boost its GDP growth, it might make decisions that are economically beneficial to the province, but in doing so, create negative externalities (such as pollution) for other provinces. I thank Alex Clark for this point.

¹⁹⁷ Ibid 29-30.

social discount rate. They find that based on an economic country-level analysis, the Chinese government's coal fired power plants will break even after seven years, meaning that they could generate net economic value before 2030. This contrasts with a firm-level financial analysis where the firm-specific shareholders are likely to receive financial returns 21 years after the coal fired power plant is in operation. This partly explains why the Chinese government continues with, and has even increased, its coal fired power plant operations.

Nevertheless, the authors conclude that the planned coal fired plants may never generate positive economic returns on the assumption that shadow carbon pricing rises from US\$15 to US\$30/tCO₂ from 2026 to 2041.¹⁹⁸ Further, a more ambitious shadow carbon pricing rising to US\$60/tCO₂ in 2041 could produce an economic loss of US\$35m for a typical plant. An important implication of their analysis is that directors and the controlling shareholder acting in the best interests of the SOE, which entails considering broader economic considerations, should not build any more coal fired power plants, contrary to the current state in China.

c. Summary

Two points should be made. First, the analysis of the fiduciary duties of the directors of SOEs, as well as the fiduciary duties of the state as the controller shareholder and as an asset owner, show that these duties can be aligned because all three fiduciaries *can* and *should* consider climate change or other systemic considerations such as those related to broader economy that are not tied to firm-specific shareholders' financial returns.

Second, the findings from Chinese coal-fired power plant SOEs reveal that the Chinese government (in its capacity as the controlling shareholder and asset owner) continues to invest in and to construct coal fired power plants because it is likely to have prioritised broader economic considerations above firm-specific financial considerations in the SOEs' transition plans. The risk, however, is that the social cost of carbon may eventually exceed the net economic benefits of having coal fired power plants.

To be clear, the case study of Chinese coal-fired power plants SOEs is not intended to support the claim that directors of these SOEs are internalizing negative corporate externalities or they are mitigating the adverse impacts of the SOE's operations on climate change. Rather, importantly, the case study is intended to support the claim regarding the external dimension of director's duties, which, in the case of Chinese SOEs, means that directors of coal-fired power plant SOEs do consider broader economic considerations, even if doing so is not linked to the financial returns of the SOE's shareholders; this is aligned with the purposes of SOEs, and can be aligned with the fiduciary duties of the state as the controlling shareholder and as the asset owner of the SOEs. It is worth bearing in mind that the board decision-making process of Chinese coal-

¹⁹⁸ Ibid 33. These shadow carbon prices are based on the Chinese government's own stated objective of phasing out coal, which reflect the preferences of the state as the controlling shareholder.

fired power plant SOEs is not anomalous and confined only to China. It has been shown that in the US, where government-owned power utility companies account for close to 60% of the total utilities, directors and managers of these companies adopt similar decision-making process.¹⁹⁹

Moreover, the case study does not detract from, and is consistent with, the claim that directors of SOEs of producers of renewable energy in China do address the negative impacts of the company's operations on climate change and the social costs to the community, even at the expense of short- and medium-term financial returns to shareholders due to the high financing cost of renewable energy.

IV. CONCLUSION

A primary justification for requiring directors to address climate-related risks/opportunities or systemic considerations is their impact on the company's interests, often linked to financial materiality or firm-specific shareholder returns. This justification also underpins requirements for companies to report on climate risk impacts on them. However, an exclusive or predominant focus on financial materiality may have inadvertently hindered accountability for corporate negative externalities and provided arguments to those who believe corporate law is not the appropriate tool for addressing negative externalities. This chapter addresses this unsatisfactory situation.²⁰⁰ It explains why analysing the external dimension of directors' duties is crucial and evaluates arguments supporting it.

The key argument is that the external dimension of directors' duties finds compelling support in SOEs. Directors of SOEs do and should consider the company's impacts on climate change, the economy, or society, even if doing so is not tied to SOE-specific shareholder returns. This is because SOEs have multiple purposes, and the state, as the controlling shareholder and asset owner, considers climate and other systemic factors, allowing the fiduciary duties of directors, the controller, and the asset owner to align. Analysing director duties in SOEs, as I mentioned earlier, is critical, because SOEs and their state owners are major contributors to climate change and facilitators of decarbonization, yet debates often focus on non-SOEs and the US institutional investors. This analysis offers several lessons for US and global corporate law discourse on climate change.

¹⁹⁹ Arjuna (n 160) 191-193.

²⁰⁰ To be clear, directors must not do away with material financial considerations, otherwise the company will become financially unviable which will lead to its demise. As one commentator puts it pithily, 'Unless a business is sustainable financially it will not be around to exercise responsibility': Stephen Beer, 'ESG must learn from the tech bubble —Returns Matter: Investors Must Not Forget about Profits, Even as They Focus on Wider Criteria' *Financial Times* (17 August 2021).

First, the external dimension of directors' duties is relevant to corporate governance discussions of government-owned utility companies, both in the US (where over 2000 such utilities account for more than 58% of US production capacity)²⁰¹ and globally (representing over 60% of world electricity capacity)²⁰². This calls into question the argument by some US scholars that directors risk breaching their duties if shareholders pressure them to sacrifice firm-specific returns by addressing climate change or other systemic matters.²⁰³ This is because the duties of SOE directors can align with those of the state as controller and asset owner. The external dimension, as illustrated by the Chinese SOEs, also helps us to understand the corporate governance of other top 10 largest GHG emitters, including India and Indonesia. The SOEs in these countries have accelerated coal plant production, contrary to net zero ambitions, a striking finding of the 2024 Carbon Majors Database.²⁰⁴

The second lesson is that the universal ownership argument can cut both ways— it can be deployed to support measures that mitigate or aggravate climate change. The universal ownership proponents consider themselves as a force for good for the environment and society. This is compelling insofar as reducing climate risks or other systemic risks (such as those related to the economy) posed by one (or more) of the companies in the universal owner's portfolio—even if doing so will reduce the shareholder returns of that company—will be outweighed by the positive long-term returns of the other companies in its portfolio, thereby increasing the long-term risk adjusted returns for the universal owner's beneficiaries. However, the reverse—as illustrated by the Chinese coal-fired power plant SOEs—is equally true: the universal owner should not or is unlikely to reduce the climate-related or other systemic risks posed by one of the companies in its portfolio, if this is not outweighed by the long-term returns to the remainder of its portfolio.

The Chinese government (or its controlled entity) is not only a controlling shareholder of SOEs, but is also an asset owner or a universal owner of SOEs and non-SOEs as the state is concerned not only with the financial performance of an individual company that comprises its portfolio, but also with the performance of the economy as a whole. The Chinese government has not phased out but has ramped up coal-fired power plant operations, because doing so is not outweighed by the broader economic gains to China of continuing or even increasing these operations. In other words, based on a cost-benefit calculation, the carbon-intensive activities of one (or more) of the SOEs contribute to the overall economic gains for China, and thus, to the portfolio of the state as the asset owner. Therefore, there would be little incentive for the state as an asset owner to reduce the negative externalities caused by these coal-fired plant investee SOEs in its portfolio. This partly explains the most striking trend identified by the 2024 Carbon

²⁰¹ Arjuna (n 160) 144.

²⁰² Prag (n 8) 8.

²⁰³ Goshen and Hamdani (n 4); Marcel Kahan and Edward B. Rock, 'Systematic Stewardship with Tradeoffs' (2023) 48 J. Corp. Law 497.

²⁰⁴ Carbon Majors (n 31).

Majors Database—the significant increase in emissions from the expansion of coal fired power plants in Asia, despite the stark warnings from International Energy Agency and notwithstanding the governments’ public declaration of net zero targets.²⁰⁵ In addition to economic gains, there are other complex reasons (including geopolitical risks and energy security concerns) for the continued reliance on and acceleration of coal-fired power plants in China and other major GHG emitters.²⁰⁶

The final lesson is that the external dimension of directors’ duties, as illustrated by the Chinese SOEs, demonstrates the conflict between the broader economic benefits generated by carbon-intensive SOEs and the externalities caused by them. The question for corporate law and governance is whether directors’ and investors’ fiduciary duties can be deployed to reduce this conflict, and what incentives are available for directors and investors of these SOEs and whether they have the capability to do so.²⁰⁷ Another related issue is how directors of carbon-intensive SOEs ought to balance the broader economic goals of the country, issues of just transition (as the coal sector generated more than 2.7 million jobs in China in 2021²⁰⁸), shareholders’ returns, and negative externalities. One suggestion, that is beyond the scope of this paper, is to link shadow carbon pricing²⁰⁹ with executive compensation contracts and promotion systems for directors and managers of the SOEs. Shadow carbon pricing incorporates the environmental and social costs and benefits to society. This is aligned with the multiple purposes of SOEs, consisting of the pursuit of environmental protection, social benefits and economic growth, which directors have to weigh, balance and give effect to.

²⁰⁵ Watts (n 95).

²⁰⁶ David Sandalow and others, *Guide to Chinese Climate Policy 2022* (Oxford Institute of Energy Studies, 2022).

²⁰⁷ In terms of the incentive structure, the current structure seems to reward the continuation of coal-intensive activities because the promotion of the local government officials depends to a certain extent on meeting short-term GDP growth targets: Bas Heerma van Voss and Ryan Rafaty, ‘Sensitive Intervention Points in China’s Coal Phaseout’ (2022) 163 *Energy Policy* 112797.

²⁰⁸ Alex Clark, Weirong Zhang, ‘Estimating the Employment and Fiscal Consequences of Thermal Coal Phase-Out in China’ (2022) 15 *Energies* 800.

²⁰⁹ Kshama Harpankar, ‘Internal Carbon Pricing: Rationale, Promise and Limitations’ (2019) 10 *Carbon Management* 219; Lixin Cui and others, ‘How Policy Preferences Affect the Carbon Shadow Price in the OECD’ (2022) 311 *Applied Energy* 118686; World Bank Group, ‘The Shadow Price of Carbon in Economic Analysis: 2024 Guidance Note’ <<https://documents1.worldbank.org/curated/en/0995553203142424068/pdf/IDU1c94753bb1819e14c781831215580060675b1.pdf>> accessed 15 March 2025.

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