Corporate Governance and Climate Change: Smoothing Temporal Dissonance to a Phased Approach

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SUMMARY

Projections for climate change extend decades into the future, and usually to the end of this century due to the long-lived nature of greenhouse gases (GHGs). Predominant normative frameworks for corporate governance are primarily short-term in nature, creating a temporal dissonance within the context of corporate governance and climate change. Adding to this complexity, the energy transition itself has temporal paradoxes and implications for the global economy – the transition away from fossil fuels cannot be too sudden and sharp, but an urgent yet stable, phased transition is required. Statutory interventions in the UK have imposed on directors the requirement to consider the long-term profitability of companies. New initiatives, such as the task force on climate related disclosures (TCFD), the Enterprise Principles, and the Oxford-Martin Principles, also advocate for directors to consider the risks from climate change, including emissions scenarios which take into account short-, medium- and long-term scenarios. It is by using a phased approach to climate risk that a smoothing of this temporal dissonance between corporate governance and climate change can be initiated by businesses. While many of these new governance initiatives do not yet provide the requisite level of specificity to demonstrate how a phased approach could be adopted by particular companies, the TCFD guidance does provide some tools which would allow companies to adopt a phased approach, however the types and levels of detail of these tools should be increased for a variety of types of industry.

1 INTRODUCTION

Climate change has famously been described as a ‘super wicked problem’ for policy formation due to the interdependencies and complexities involved.[1] This is partly due to the temporal dimension of climate change. Cumulative emissions of GHGs are a ‘stock’ problem, and more emissions over time exacerbate the impacts. In addition, emissions released today will only be felt decades into the future, and therefore intergenerational inequities are involved. These temporal dimensions also have implications for businesses. In the context of climate change as an economic problem, the goal of climate policy can be perceived as achieving an ‘efficient’ outcome with the highest net benefits.[2] However calculating near-term costs with long-term benefits, which may involve non-market goods, is ‘extremely difficult.’[3] As Lazarus notes, time is not costless in this context,[4] and the longer solutions are postponed, the worse the impacts will be, and the more difficult, drastic and costly solutions must become to stay within safe increases of global temperatures.

Projections for climate change extend decades into the future, and usually to the end of this century due to the long-lived nature of GHGs. Climate models usually employ time scales of 2020, 2050 and 2100. The Paris Agreement sets global temperature goals of well below 2°C with an aspirational goal of holding increases in temperatures to 1.5°C above pre-industrial levels.[5] However, the Paris Agreement does not impose time frames in which this temperature goal should be achieved, only including an aim that Parties should reach global peaking of GHG emissions ‘as soon as possible’.[6] Reports of the Intergovernmental Panel on Climate Change (IPCC) and United Nations Environment Programme (UNEP) are more precise, calculating that in order to reach the global temperature goals, significant reductions in GHGs must be achieved by 2030, 2050, and near-zero emissions by 2100.[7] A more aggressive timescale for reaching 1.5°C may be necessary as keeping global temperature goals under 2°C may no longer be safe. In order to do this, emissions must peak immediately and reach net zero (including negative emissions) by 2050.[8] Strong engagement with non-state actors such as companies is key to implementing and increasing the ambition of nationally determined contributions of states. Due to the cumulative nature of emissions, near-term choices will have significant impacts on the scale and intensity of future emission reductions, but also have cost implications.

As Richardson notes, many dimensions of time are missing from or marginalized in environmental governance.[9] The law can structure time by creating temporal orderings and thereby

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The authors wish to thank Prof. Anita Foerster and Prof. Benjamin Richardson for their comments on earlier drafts of this article as well as the participants of the global symposium ‘Doing Time: Aligning Business with Sustainability Timescales’, organized by the Sustainable Market Actors for Responsible Trade (SMART) at the University of Oslo on 28–29 June 2018 for their valuable insights and feedback. They are also grateful to the anonymous reviewers for their constructive and insightful comments. Any errors remain those of the authors.

[1] Richard J. Lazarus, *Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*, 94 Cornell L. Rev. 1153 (2009); *see also* Horst W. J. Rittel & Marvin M. Webber, *Dilemmas in a General Theory of Planning*, 4(2) Pol’y Sci. 155 (1973) and Kelly Levin et al., *Playing it Forward: Path Dependency, Progressive Incrementalism, and the ‘Super Wicked’ Problem of Global Climate Change* (7 July 2007), http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.464.5287&rep=rep1&type=pdf

[2] Daniel Bodansky, Jutta Brunnee & Lavanya Rajamani, *International Climate Change Law* 6 (OUP 2017); Nicholas Stern, *The Economics of Climate Change: The Stern Review* (CUP 2007).

[3] Bodansky et al., *supra* n. 2, at 7.

[4] Lazarus, *supra* n. 1, at 1160.

[5] United Nations Framework Convention on Climate Change (UNFCCC), The Paris Agreement, FCCC/CP/2015/L.9, Art. 2(1).

[6] *Ibid.*, Art. 4(1). The Agreement does institute periodic stocktaking exercises designed to assess the global contributions of parties to the long-term temperature goal.

[7] Intergovernmental Panel on Climate Change, ‘Climate Change 2014: Synthesis Report’. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), Geneva, Switzerland and United Nations Environment Programme, *The Emissions Gap Report 2016: A UNEP Synthesis Report* xiv (Nairobi: UNEP Nov. 2016); United Nations Environment Programme, *The Emissions Gap Report 2018* (Nairobi: UNEP Nov. 2018).

[8] *See* Elfin Ersin Reed, *The Magic Numbers*, CICERO Centre for International Climate Research, https://www.cicero.oslo.no/en/the-magic-numbers (accessed 8 June 2019).

[9] Benjamin J. Richardson, *Time and Environmental Law: Telling Nature’s Time* 3 (CUP 2017).

constructing a social time that can disconnect society from nature's timescales.[10] The law itself is also subject to structural forces of inertia and progression, as it seeks both stability and continuity, but also has the capacity to spur change in response to shifting social values.[11] This is true in the area of corporate law as well, where directorial norms such as the business judgment rule and fiduciary duties are traditionally interpreted (arguably incorrectly) as making it more difficult to defend near term actions which have long-term benefits, particularly where costs are involved.[12] Predominant normative frameworks for corporate governance are short-term in nature, creating a temporal dissonance within the context of corporate governance and climate change. In this context, the financial implications of climate risk are one of the most pervasive misconceptions among corporate boards.[13] Companies often misconstrue climate change as a long-term problem which does not affect short or medium term decision-making. The exact impacts of climate change are difficult to estimate, and that complexity, combined with the temporal dimensions of the problem, lead many organizations to incorrectly perceive the issue as not relevant to their present decision-making choices.[14] However, inadequate information about the risks of climate change to business can lead to mispricing of assets and misallocation of global capital, and therefore can present risks to global fiscal stability and market vulnerability to abrupt asset value corrections.[15]

Statutory interventions in the UK have imposed on directors the requirement to consider the long-term profitability of companies. The UK Corporate Governance Code requires directors to include a long-term viability statement and the Financial Reporting Council (FRC) Guidance states this should align with a company's investment and planning period. A paradigm shift is needed for investment in the creation of value for the long term.[16] Adding to this complexity, the energy transition itself has temporal paradoxes and implications for the global economy – the transition away from fossil fuels cannot be too sudden and sharp, but an urgent yet stable, phased transition is required. New initiatives, such as the TCFD, and the Enterprise Principles and Oxford-Martin Principles, advocate for directors to consider the risks from climate change, including emissions scenarios which take into account short-, medium- and long-term scenarios. It is by using a phased approach to climate risk that a smoothing of this temporal dissonance between corporate governance and climate change may be initiated by businesses.

This article examines the temporal dissonance between climate and corporate timeframes, concluding that a phased approach in the corporate governance context can help to smooth this temporal dissonance. Existing tools to achieve this phased smoothing are emerging and should be adopted by corporate actors. This article assesses these new governance initiatives using set criteria to examine what these new initiatives require of companies, whether they provide tools to address the temporal dissonance, and whether these tools are industry specific. Section 2 of this article will assess the temporal frameworks involved in the super wicked problem of climate change, and section 3 will assess the related normative frameworks of corporate governance with its preference for short-termism. Section 4 will analyse the statutory provisions in Section 172 of the Companies Act 2006 and in particular the emphasis on longer-term decision-making in corporate governance. Section 5 will provide an assessment of new regulatory and governance tools, which may aid in smoothing the temporal dissonance demonstrated in the previous sections, particularly as highlighted in the recommendations of the TCFD and emerging legal obligations for companies in the context of climate change through the Principles on Climate Obligations of Enterprises and the Oxford-Martin Principles to Guide Investment Towards a Stable Climate. Section 6 will conclude with an assessment of selected industry and sector-specific concerns, assess emerging legal frameworks in the UK and provide recommendations for future governance approaches.

2 Climate change: temporal frameworks

Climate change is one of the most pressing yet complex issues of our time. Its impacts are long-term, potentially irreversible, global, and stem from seemingly every single facet of economic activity. The IPCC estimates that GHG emissions have continued to increase between 1970 and 2010, with larger absolute increases occurring more recently, between 2000 and 2010.[17] The IPCC report is clear that continuing to emit GHGs will lead to further warming which in turn will lead to long-lasting and potentially irreversible changes to the climate system.[18] They note that these changes will lead to 'severe, pervasive and irreversible'[19] impacts on ecosystems and people. Due to inertia in the climate system, action must be taken now to avoid future damage. The IPCC notes that any delay in concerted mitigation action beyond 2030 will 'substantially increase the challenges' of meeting the Paris Agreement long-term temperature goals.[20] A more aggressive timescale for reaching 1.5°C is necessary, with requirements for emissions to peak immediately and reach net zero (including negative emissions) by 2050.[21] At our current rate of emissions, it is likely that we will reach a global mean temperature increase of 1.5°C relative to preindustrial levels between 2030–2052.[22] The Paris Agreement has a goal of limiting average global temperature increases to 'well

[10] *Ibid.*, at 80–81.

[11] *Ibid.*, at 88.

[12] *Ibid.*, at 326.

[13] ClientEarth, *Risky Business: Climate Change and Professional Liability Risks for Auditors* 3 (Dec. 2017).

[14] Task Force for Climate Related Disclosures, *Final Report* ii (June 2017), https://www.fsb-tcfd.org/publications/final-recommendations-report (accessed 8 June 2019).

[15] Mark Carney, *Breaking the Tragedy of the Horizon – Climate Change and Financial Stability* (29 Sept. 2015), https://www.bankofengland.co.uk/-/media/boe/files/speech/2015/breaking-the-tragedy-of-the-horizon-climate-change-and-financial-stability.pdf?la=en&hash=7C67E785651862457D99511147C7424FF5EA0C1A; (accessed 8 June 2019) TFCD, Final Report 2017 *ibid.*, at 1.

[16] Expert Group on Global Climate Change, *Principles on Climate Obligations of Enterprises* 22 (Eleven International Publishing 2017), https://climateprinciplesforenterprises.org/resources (accessed 8 June 2019).

[17] IPCC, *supra* n. 7, at 4; While the rate of increase in emissions slowed between 2012–2013, it is too early yet to determine whether this is a permanent trend; *see* UNEP, *supra* n. 7, at xiv.

[18] IPCC, *supra* n. 7, at 8.

[19] *Ibid.*

[20] *Ibid.*, at 24.

[21] Reed, *supra* n. 8.

[22] Intergovernmental Panel on Climate Change, *1.5°C Special Report*, Summary for Policy Makers, 3 (6 Oct. 2018).

below 2°C', with an aspirational goal of limiting the increase to 1.5°C.[23] This agreement on temperature goals was partly the result of a Structured Expert Dialogue held between 2013–2015, which found that the previous global goal of limiting temperature increases to 2°C was inadequate to prevent dangerous levels of climate change impacts globally.[24] The IPCC has estimated that keeping total human-induced warming to less than 2°C with a probability of over 66% would require that cumulative carbon dioxide emissions from all anthropogenic sources be limited to 2,900 $GtCO_2$.[25] By 2011, they estimated that we had already reached approximately 1,900 $GtCO_2$,[26] leaving us with a total global carbon budget of approximately 1,000 $GtCO_2$.

The UNEP publishes an annual Emissions Gap Report. The 2016 report states that, while the Paris Agreement will slow climate change, it will not do enough or do enough fast enough.[27] The 2018 report states that under the Paris Agreement, the world is on track for approximately 3.2°C of warming, which the report states is not sufficient to avert a climate disaster.[28] The report urges immediate and strong action, particularly from major economies.[29] Without such urgent action, carbon intensive energy infrastructure will be locked-in, leaving less 'solution space' and fewer options for society in the future, leading to greater reliance on negative emissions, increased costs of mitigation, and greater risks of economic disruption.[30]

Higher global temperature increases above 2°C may put humanity's very existence at stake. The IPCC projects that climate change impacts above 2°C from the middle of the twenty-first century onward will undermine global food security and redistribute marine species and biodiversity.[31] An increase of 4°C or more would pose 'large risks to food security globally',[32] and would lead to substantial species extinction, global and regional food insecurity and constraints on human activities.[33]

A recent World Bank Report, 'Turn Down the Heat: Why a 4°C Warmer World Must Be Avoided', makes stark reading. It notes that present CO_2 concentrations are higher than paleoclimatic and geologic evidence indicates has occurred at any time in the last fifteen million years.[34] It continues, 'Recent research suggests that large-scale loss of biodiversity is likely to occur in a 4°C world, with climate change and high CO_2 concentration driving a transition of the Earth's ecosystems into a state unknown in human experience.'[35] It warns that the cumulative and interacting effects of such wide-ranging impacts of climate change are not well understood scientifically, and therefore 'there is no certainty that adaptation to a 4°C world is possible.'[36] This is because at certain ecological or climate tipping points, the impacts become irreversible. Near-term choices on emissions can lead to what the IPCC refers to as 'lock-ins or irreversibilities' in the climate system.[37] These events could lead to run-away climate change.

It is clear that human activities, particularly GHG emissions and deforestation, are key drivers of climate change, and the impacts are likely to be wide ranging, disproportionate, and potentially severe, leading us to a global climate crisis. However, mitigation and substantial cuts in GHGs in the next few decades could substantially reduce the risks of climate change.[38] Emissions are cumulative, so a certain degree of warming is already locked into the atmosphere due to historic emissions, but limiting warming from 2030 and beyond could avert catastrophic climate change. These mitigation pathways, according to the IPCC, are likely to limit warming to below 2°C, but would require substantial emission reductions in the next few decades, a peaking of emissions by 2020, and 'near-zero' emissions of GHGs by 2100.[39] These attempts at mitigation would require 40–70% reductions in GHGs by 2050 in order to establish a stable, declining trajectory of emissions, in order to reach about 450 to 500 ppms CO_2 equivalent by the end of the century.[40] The decline and eventual abolition of fossil fuels would require large-scale changes to existing energy systems and land use,[41] and therefore companies will be an important part of the energy transition. This means that corporate action to reduce emissions will be required in the next few decades as significant emission reductions are required by 2050. Changing business systems, value chains and strategies will take time, and to achieve specific reduction targets by 2030 and 2050 requires near term decision-making on transitioning business in the next two decades. However, corporate boards may be largely ill-equipped to start making these decisions, partly due to the predominant focus on short-term profits.

3 Normative short-termism in the UK

The Cadbury Code in 1992 and subsequent initiatives have had a positive influence on the corporate governance landscape in the UK and have allowed it to evolve and to respond – sometimes successfully and some other times less efficiently – to a series of scandals and corporate failures as well as the challenges that the modern business community faces. Despite the widespread consensus that the UK has been a pioneer in the area of corporate governance regulation, there is still a pressing issue of short-termism, which needs to be addressed, as it has not been properly resolved. The recent global financial crisis has further highlighted its importance for the future of corporate governance and financial regulation in general. The pursuit of short-term goals and gains has a potentially detrimental effect on the long-term prospects of companies, and their contributions to climate change.

Concerns about excessive short-termism in boardrooms and in the overall decision-making process have been

[23] UNFCCC, *supra* n. 5, Art. 4.
[24] UNFCCC, 'Report on the Structured Expert Dialogue on the 2013–2015 Review', FCCC/SB/2015/INF.1, para. 40.
[25] IPCC, *supra* n. 7, at 10.
[26] *Ibid.*
[27] UNEP 2016, *supra* n. 7, at xi.
[28] *Ibid.*, at xi; *see also* UNEP 2018, *supra* n. 7, at xvii.
[29] *Ibid.*, at xiii and xiv.
[30] *Ibid.*, at 9.
[31] *Ibid.*, at 14.
[32] *Ibid.*
[33] *Ibid.*, at 18.
[34] World Bank Report, *Turn Down the Heat: Why a 4°C Warmer World Must Be Avoided* xiv (2012), https://openknowledge.worldbank.org/handle/10986/11860 (accessed 8 June 2019).
[35] *Ibid.*, at xvi.
[36] *Ibid.*, at xvii.
[37] IPCC, *supra* n. 7, at 87.
[38] *Ibid.*, at 18.
[39] *Ibid.*, at 21; *see also* UNEP 2018, *supra* n. 7, at xvii.
[40] IPCC, *supra* n. 7, at 21 and 27.
[41] *Ibid.*, at 91.

expressed on several occasions and through different mediums. The Kay Review in 2012 expressly mentioned that 'short-termism is a problem in UK equity markets, and the principal causes are the decline of trust and the misalignment of incentives throughout the equity investment chain'.[42] In December 2017 the FRC published its proposals for a revised UK Corporate Governance Code to reflect the changing business environment and to help UK companies achieve the highest levels of governance. The revised Code, in an attempt to restore the public trust in business and strengthen the attractiveness of the UK capital market to global investors in the post-Brexit era, will give emphasis to the importance of long-term success and sustainability of companies.[43]

This section will review all the corporate governance reviews and codes introduced in the UK, with the view to ascertain whether and to what extent these instruments promoted or facilitated short-termism in the UK corporate governance landscape.

In 1992, the first corporate governance report in the UK was published by the Committee on the Financial Aspects of Corporate Governance under the Chairmanship of Sir Adrian Cadbury. The Cadbury Report clearly placed shareholders at the centre of the corporate governance scene. No other stakeholders were mentioned in the report and no reference was made to long-term strategy. At this point, it is useful to note that the Cadbury Committee was a private-sector initiative, established by non-governmental agencies, such as the Financial Reporting Council, the London Stock Exchange, and the accountancy profession in the aftermath of the Maxwell, Polly Peck and the Bank of Credit and Commerce International scandals and collapses. As such, it represents an effort to introduce a new, different type of regulatory approach, lighter, more flexible and voluntary, but it also reflects an attempt to stave off government intervention in corporate affairs through legislation.[44] It advocated that 'statutory measures would impose a minimum standard and there would be a greater risk of boards complying with the letter, rather than with the spirit, of the regulations'.[45]

The Greenbury Review in 1995, although set to deal with the remuneration of directors, remained focused on the interests of shareholders and did not touch upon the issue of the short-term/long-term dichotomy.[46] The 1998 Hampel Review did not deviate from the previous position in relation to the focus of directors' duties (present and future shareholders) but denounced the exclusive emphasis on the short-term interests of today's shareholders in favour of developing and sustaining strong relationships between the company's directors and stakeholders.[47] It is worth mentioning that this is the first time that the terms 'stakeholders' and 'long-term' are employed in a corporate governance document, but there is not much detail as to the interaction between shareholders' and stakeholders' interests and no discussion about how companies should develop a long-term perspective in pursuing shareholder value, instead of a short-term one.

The Combined Code, in its Preamble mentioned that 'Good governance should facilitate efficient, effective and entrepreneurial management that can deliver shareholder value over the longer term'. In relation to incentives and remuneration, there are references made to 'long-term incentive schemes', which indicate that the Committee identified the need for remuneration not to be excessive, rewards to be phased, not awarded in one large block, and stock options not to be exercised in under three years.[48] These arrangements were clearly intended to link remuneration with performance and ultimately encourage listed companies to adopt a long-term strategy rather than a myopic one, focused on short-term share prices. Neil Cowan, Vice President of the European Confederation of Institutes of Internal Auditing, argued that this represented 'a welcome restatement of that part of a board's prime responsibility for devising a strategy that will ensure the company's continued existence'.[49]

As it will be discussed later, although the idea of using principles and voluntary compliance was innovative and seemed ideal to set the tone for all companies, in practice it soon became apparent that compliance was unsatisfactory. Managers and directors, instead of using this opportunity to transform their corporations, engaged in a box-ticking exercise and on several occasions failed to follow the spirit of the rules.[50] In this regard, a voluntary approach may have encouraged a move away from measurement and accountability towards statements of general intent and direction, a move away from tangible codes to more nebulous principles.[51]

Just one year after the introduction of the Combined Code, the Institute of Chartered Accountants in England and Wales published the Turnbull Guidance to Directors on Certain Aspects of the Combined Code of Corporate Governance in 1999. Despite the fact that the Guidance reaffirmed that the shareholder wealth maximization approach[52] remains dominant in the UK, it recognized that the corporate objective is not simply to maximize shareholder returns in the short-term, highlighting the need to safeguard both shareholders' investment and the assets of the company against unnecessary risks. Without specifically raising the issue of short-termism, the Turnbull Guidelines underlined the

[42] *The Kay Review of UK Equity Markets and Long-term Decision Making: Final Report* 9 (July 2012).

[43] Financial Reporting Council, *Proposed Revisions to the UK Corporate Governance Code* 7 and 13 (Dec. 2017).

[44] Ian Jones & Michael Pollitt, *Understanding How Issues in Corporate Governance Develop: Cadbury Report to Higgs Review*, 12(2) Corp. Governance 162, 169 (2004).

[45] World Bank Report, *supra* n. 35, at para. 1.10.

[46] 'Directors Remuneration Report of a Study Group Chaired by Sir Richard Greenbury' (1995), paras 4.2 and 6.16.

[47] Committee on Corporate Governance Final Report (1998), para. 1.18. Helen Short, *Corporate Governance: Cadbury, Greenbury and Hampel – A Review*, 7(1) J. Fin. Reg. & Compl. 57, 58 (1999).

[48] Financial Reporting Council, *The Combined Code on Corporate Governance* (2003), Principle B3.4, Schedule A2, 3 and 5 and Schedule B1 and 3.

[49] Nelson Cowan, *Let the Boardroom Beware*, The Times, 28 (4 Sept. 1997).

[50] Roger Carr, *Adherence to the Spirit*, in *Financial Reporting Council, Comply or Explain: 20th Anniversary of the UK Corporate Governance Code Financial Reporting Council* 16 (2012). *See also* Antoine Faure-Grimaud, Sridhar Arcot & Valentina Bruno, *Corporate Governance in the UK: Is the Comply-or-Explain Approach Working?* (2005), Discussion Paper 081, Corporate Governance at LSE Discussion Paper Series No. 001, https://eprints.lse.ac.uk/24673/1/dp581_Corporate_Governance_at_LSE_001.pdf (accessed 8 June 2019).

[51] Editorial, *Management Today* 3 (Sept. 1997).

[52] The Institute of Chartered Accountants in England & Wales, *International Control Guidance for Directors on the Combined Code* (Sept. 1999), para. D.2; Dominic Elliot, Steve Letza, Martina McGuinness & Clive Smallman, *Governance, Control and Operational Risk: The Turnbull Effect*, 2(3) Risk Mgmt. 47, 50 (2000).

importance of risk management and encouraged companies to review their risks regularly in response to the changing business environment, keep their shareholders informed about risks and to ensure that prospective returns should justify foreseeable risks.[53]

Although the Turnbull Guidance was a step towards the right direction, it is essential to examine why companies did not manage to put in place a comprehensive risk management, monitoring and auditing system and in turn why short-termism blossomed instead of being suppressed. One of the problems was that the Guidance took for granted that most companies would already have the fundamentals of good risk management in place and that these companies would merely have to formalize already embedded good practice. Unfortunately, this system was not adequate for those companies which already had governance deficits and were consequently the most likely to experience a governance breakdown. In other words, the Guidance, albeit useful for the creation of a governance framework, proved to be inadequate for companies that had weak or no foundations to build upon.[54]

Until 1999, all reports, codes and reviews placed shareholders at the heart of corporate governance as the primary, and in most cases only, constituent, whose interests directors should promote. In 2002, the Higgs Report underlined the obligation of directors to act in the interests of 'the company' and to promote its success,[55] but it was still too early to talk about a departure from the shareholder primacy paradigm.[56] It was not until the 2010 version of the UK Corporate Governance Code that it was expressly stipulated from the very beginning that 'the purpose of corporate governance is to facilitate effective, entrepreneurial and prudent management that can deliver the long-term success of the company'[57] and 'every company should be headed by an effective board which is collectively responsible for the long-term success of the company'.[58] The promotion of the long-term success of the company is once again mentioned with regards to the performance-related elements of executive directors' remuneration.[59] It is evident that the wording of the Code and the terminology used has been influenced by the Company Law Review Steering Group (CLRSG) reports and the Companies Act 2006. Two years later, in 2012, the Code included a reference to the delivery of long-term success, accompanied by a focus on the sustainable success of an entity over the longer term, as one of the underlying principles of all good governance.[60]

The 2016 UK Corporate Governance Code describes the goal of the company as being the sustainable success of the entity over the longer term.[61] The Code referred to the directors as being primarily accountable to shareholders,[62] but it did recognize that other non-shareholder constituents make contributions to the company, and that directors were encouraged to recognize these contributions and listen to their views, provided they are relevant to the overall approach to governance.[63] It is hard to argue that the Code has lost its shareholder-centric character, as the acknowledgement paid to other constituents, albeit positive, falls short of making a real contribution towards a change in the existing corporate culture.

Finally, the Green Paper,[64] which deals with the strengthening of the UK corporate governance framework, touches upon the issue of long-term pay incentives and how these incentive plans can be better aligned with the long-term interests of quoted companies and shareholders. Even though it is difficult to assert with confidence the link between executive pay and long-term company performance,[65] it is true that the growing complexity of executive pay packages has contributed to poor alignment between executives, shareholders and the company.[66] This is why there are more and more voices arguing in favour of the simplification of executive pay packages as well as linking executive pay to sustainable long-term value creation[67] and the long-term company performance.[68]

The foregone analysis reveals that there is no compelling evidence found in any of the codes and reports developed in the post-Cadbury era that expressly supports a short-term approach in the way that companies are run and operated. It seems that the causes of short-termism are deeply rooted in the core of widely-held companies and the very characteristics of the UK corporate governance system, which form the basis of its success and prevalence, are the same ones that allowed short-termism to blossom. More specifically, the UK system is based on self-regulation, soft-law rules, broad principles and statements of good practice, which allow flexibility and voluntary compliance depending on the structure and the requirements of every company.

However, the same economic reasons that encourage short-termism will inevitably encourage managers to avoid substantial compliance with the best practice principles and, since there is no supervisory body to monitor compliance, executives' conduct will be determined by the incentives offered to them or the direction of the overall market.[69] If

[53] ICAEW, *Internal Control: Guidance for Directors on the Combined Code* (1999), para. 13.

[54] Lynn Drennan & Matthias Beck, *Corporate Governance: A Mandate for Risk Management?* (2001), www.bolc.co.uk/downloads/CG%20and%20internal%20controls14941303386403.doc (accessed 8 June 2019).

[55] *Review of the Role and Effectiveness of Non-executive Directors* 5 and 6 (2003), Principle A1 and A.3.3.

[56] John Armour, Simon Deakin & Suzanne J. Konzelmann, *Shareholder Primacy and the Trajectory of UK Corporate Governance*, 41(3) Brit. J. Indus. Rel. 531, 523 (2003).

[57] Financial Reporting Council, *The UK Corporate Governance Code* (2010), para. 1.

[58] *Ibid.*, Principle A1.

[59] *Ibid.*, Principle D1.

[60] Financial Reporting Council, *The UK Corporate Governance Code* 1 (2012), Governance and the Code.

[61] Financial Reporting Council, *The UK Corporate Governance Code* (2016), Principle 1, para. 4.

[62] *Ibid.*, at para. 9.

[63] *Ibid.*

[64] Department for Business, Energy and Industrial Strategy, *Corporate Governance Reform: Green Paper* (Nov. 2016).

[65] Among others, Carola Frydman & Raven Saks, *Executive Compensation: A New View from a Long-Term Perspective 1936–2005*, 23 (5) Rev. Fin. Stud., Soc'y Fin.l Stud. 2099–138 (2010).

[66] Executive Remuneration Working Group's report (2016) quoted in Green Paper on Corporate Governance Reform (2016), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/584013/corporate-governance-reform-green-paper.pdf (accessed 8 June 2019).

[67] The Investment Association, *Principles of Remuneration* (Oct. 2016), https://www.ivis.co.uk/media/12445/Principles-of-Remuneration-2016-Final.pdf (accessed 8 June 2019).

[68] Investment Association Executive Remuneration Working Group report (July 2016).

[69] Andreas Kokkinis, Shareholder Short-termism in the UK: The Kay Review and the Potential Role of Corporate Law, 11(3) Corp, Ownership & Cont. 166, 170 (2014); Horace Yeung, *Managing Corporate Risks by Regulating Executive Pay: A Legal and Economic*

the market is driven by short-termism, it is most likely that managers and directors will behave accordingly regardless of what the corporate governance codes stipulate. It seems that whatever the good intentions, short-term performance continues to be the priority for many, and long-term perspectives only for the enlightened few.[70] The corporate governance codes have not been successful in creating a culture that supports innovative, sustainable long-term business performance. Although the Cadbury Report specifically identified the looseness of accounting standards, the absence of a clear framework for ensuring that directors kept under review the controls in their companies, and competitive pressures on companies and auditors, as some of the factors that caused governance breakdowns, not much was done in relation to expanding the concept of managerial accountability or addressing wider issues of ethics and responsibility in the boardrooms. We can see a change in the language used by the codes, but they should have been much more explicit in highlighting the significance of long-term trust relationships.

Supporting long-term management can be achieved without new regulation if committed long-term investors and business leaders work together to create high performing companies and earn returns for investors on a sustainable basis. It requires raising awareness activities, which will promote a change in the modus operandi of companies and their management teams and encourage a different leadership model. It takes time and commitment to initiate and implement such change of culture, but the 'comply or explain' system allows enough flexibility and breathing space, so it is a unique opportunity for companies. If 'comply or explain' leads to a meaningless box-ticking exercise and ends up meaning non-compliance, poor explanations and superficial adherence of minimum standards, then 'the behaviour of a limited few has damaged the reputation of many'.[71]

The UK Corporate Governance Code can only serve as a road map, but rules and regulations will not work without the right corporate culture. This is about values. In his Gresham lecture, on 12 May 1998, Sir Adrian Cadbury, looking back on the drafting of his report, attributed contemporary governance problems to a decline in the traditional, informal system of corporate governance in the City: Many new entrants to the City did not share the values of what they saw as the past. The gap in the framework of rules, which arose in the much-enlarged City, was that nothing was put in place of the personal links with the heads of firms. There was no consistent means of passing on business values to newcomers and ensuring that they were adhered to.[72]

4 Section 172 CA 2006 and the transition to long-term horizons

As it was discussed in the previous section, the vast majority of corporate governance reviews that have been developed since 1992 have assumed and explicitly referred to either shareholders as owners of the company, and/or placed their interests at the heart of the company's operation. Until the CLRSG in 1999–2001, it had merely been assumed, arguably incorrectly, that English company law prioritized shareholder interests above all other constituents, including those of the environment. This approach can be attributed to a misunderstanding by the business community of the role that company law itself had ascribed to shareholders.

The Steering Group took a completely different stand, acknowledging that stakeholders play a more active role in corporate governance and attempting to put an end to the (traditional) agency view of company law that focuses only on shareholders and 'ex post director opportunism'. The requirement to have regard to the long-term implications of their decisions in Section 172 Companies Act 2006 (CA 2006) reflects the enlightened shareholder value (ESV) paradigm and this provision was included in order to specifically address concerns that corporate directors were increasingly adopting a short-term approach in relation to their companies' operations and strategy. While the inclusion of this requirement is undoubtedly a positive development, we need to reflect on its real meaning and its enforcement in practice, with view to determine whether it has signalled a transition towards long(er)-term horizons.

Before discussing Section 172, its content and implementation, it is worth examining the approach taken by both academics and the judiciary in relation to the issue of corporate objective and the primacy or not of shareholders.

Law and economics theories view a company as a privately ordered nexus of contracts, with minimal or no role for state or regulatory intervention to balance competing interests within the company. The primary goal of companies should be transactional cost reduction and increase of profits, and one of the major normative goals of the law and economics movement is to increase social welfare through the maximization of profits.[73] It is unclear, however, whether this means increasing profits only or the value of the company as a whole.

According to the contractarian approach,[74] a company is an exclusively private organization. Shareholders are seen as the primary constituent of the company and shareholder wealth maximization as the most important function of the company. Contractarians argue that overall societal wealth can be achieved by providing profitable returns for shareholders.[75] However, a heavy reliance on the shareholder wealth maximization norm has led to a myopic focus by directors on short-term profitability to the detriment of the long-term

Analysis, 2(1) Durham L. Rev. 43–63 (2012) (assessing the link between executive remuneration and alignment of manager and shareholder interests).

[70] Carr, *supra* n. 51, at 16.

[71] Department for Business, Energy & Industrial Strategy, *supra* n. 65, at 10, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/584013/corporate-governance-reform-green-paper.pdf (accessed 8 June 2019).

[72] Adrian Cadbury, *The Future for Governance: The Rules of the Game*, 24 (1) J. Gen. Mgmt. 7–8 (1998).

[73] John Amour, Henry Hansmann, Reinier Kraakman & Mariana Pargendler, *What Is Corporate Law?*, in *The Anatomy of Corporate Law: A Comparative and Functional Approach* 27–28 (Reinier Kraakman et al. eds, 3d ed, OUP 2017).

[74] Henry Hansmann & Reinier Kraakman, *The End of History for Corporate Law*, 89 Geo. L.J. 439 (2000–2001); Jonathan Macey, *Fiduciary Duties as Residual Claims: Obligations to Non-Shareholder Constituents from a Theory of the Firm Perspective*, 84 Cornell L. Rev. 1266 (1998–1999); Michael Bradley, Cindy Schipani, Anant Sundaram & James Welsh, *The Purposes and Accountability of the Corporation in Contemporary Problems*, 62 L. & Contemp. Probs. 9 (1999).

[75] Steven Wallman, *The Proper Interpretation of Corporate Constituency Statutes and Formation of Director Duties*, 21 Stetson L. Rev. 163, 168 (1991–1992). *See also* Andrew Keay, *Getting to Grips with the Shareholder Value Theory in Corporate Law*, 39 Comm. L. World Rev. 358, 371 (2010).

value of the company. This short-term mentality restricts the concept of the modern company as an entity capable of serving a variety of interests and in effect undermines any attempt to focus on long-term issues that may affect society and the company, such as the environment and climate change.[76]

These theories have had a strong influence on English company law, as evidenced by the CLRSG reports that reflect a rather strong contractarian and largely economic understanding of company law.[77] The influence is so strong that, although prior to 2006 common law reserved a large amount of discretion for directors in the performance of their duties[78] and only a slim line of case law dictated that directors owe duties to shareholders,[79] there was a prevailing view that directors owed duties to the company and by the company,[80] the common law meant current and future shareholders. As a result, a considerable number of theorists shared the view that the shareholder primacy theory has always been an integral part of English company law[81] without any support from the judiciary. The common test was that directors owed duties to the company as an entity or the company 'as a whole' and directors were allowed a large amount of discretion as to whose interests they choose to promote, provided that their decisions benefit the company as an entity.[82] This inconsistency may simply evidence an unfolding of a historical misunderstanding of the proper role of shareholders and/or it can be the result of the English common law's deference (or ambivalence) in the area of directors' duties.[83]

The absence of clear guidance[84] provided in relation to the corporate objective, coupled with the large amount of discretion afforded to directors,[85] created a gap, which was filled by the shareholder value theory. As Sjåfjell notes, the shareholder value norm has flourished precisely because company law has not specified what societal value a company should provide.[86] Even though the common law has afforded directors the flexibility to consider, and even prioritize, environmental or other concerns over shareholder profits, if that ultimately benefited the company, this did not happen in practice. Shareholder primacy may not have been a firm legal mandate of directors, but shareholders were placed at the centre of the UK company law and directors continued to focus on shareholder interests as their primary concern. This may be due to the influence of corporate codes of conduct, which were advocating shareholder primacy, as well as market forces that have created the perception that shareholder primacy is a legal requirement for directors.[87]

It soon became apparent that the position of English law on directors' duties is not only clothed in ambiguity, but there was also another misunderstanding. The CLRSG determined that directors understood that they were expected to adopt a short-term focus on profits in order to satisfy their shareholders, but this was not what the law required.[88] This failure by directors to adopt a long-term approach to a company's success suggested to the CLRSG that there was a strong case for making the current law more explicit by providing for a long-term vision that would necessitate the taking into account of wider interests.[89] The directors would still act for the benefit of shareholders, while supporting a more 'inclusive' way of accomplishing this goal.[90] In short, although the overall objective of the company should be pluralist in ensuring maximum welfare for all, the means of achieving this should recognize the realities of running a corporate enterprise.[91]

The introduction of the Companies Act 2006 signalled a new era in the area of directors' duties and the ESV approach was adopted following a comprehensive review of English company law. The primary objective of the review and the reform of the Companies Act was to achieve competitiveness and the efficient creation of wealth and other benefits from the corporate enterprise as well as to minimize the negative impacts of corporate activity on participants and to maximize welfare more widely.[92]

[76] Brian Cheffins, *Corporate Law and Ownership Structure: A Darwinian Link?*, 25 Univ. New S. Wales L.J. 346, 361 (2002); John Grinyer, Alex Russell & David Collison, *Evidence of Managerial Short-termism in the UK*, 9 Brit. J. Mgmt. 13 (1998); David Millon, *Shareholder Social Responsibility*, 36 Seattle U. L. Rev. 911 (2012–2013).

[77] Sarah Worthington, *Reforming Directors Duties*, 64(3) MLR 439, 443 and 447 (2001).

[78] *Hutton v. West Cork Railway Company* [1883] Ch. Div 654; *Re Smith and Fawcett Limited* [1942] 1 Ch. 304; *Re Lee Behrens* [1932] Ch. 46.

[79] *Greenhalgh v. Arderne Cinemas* [1948] 1 Ch. 1951, para. 291 per Evershed MR 'bona fide for the benefit of the company' does not mean the company as a commercial entity distinct from the corporators, but the corporators as a general body. *See also Shuttleworth v. Cox* [1927] 1 Ch. 154; *Sidebottom v. Kershaw, Leese and Company Ltd* [1920] Ch. Div 154; *Gaimon and Others v. National Association for Mental Health* [1969] 1 Ch. 317 and *Multinational Gas and Petroleum Co v. Multinational Gas* [1983] 1 Ch. 258; *see* Daniel Attenborough, *How Directors Should Act When Owing Duties to the Companies' Shareholders: Why We Need to Stop Applying Greenhalgh*, 20(10) Int'l Co. & Com. L. Rev. 339 (2009).

[80] Paddy Ireland, Ian Grigg-Spall & Dave Kelly, *The Conceptual Foundations of Modern Company Law*, 14(1) J.L. & Soc'y 149 (1987); Paddy Ireland, *Corporate Governance, Stakeholding, and the Company: Towards a Less Degenerate Capitalism?*, 23(3) J.L. & Soc'y 287 (1996); Andrew Keay, *Ascertaining the Corporate Objective: An Entity Maximisation and Sustainability Model*, 71(5) MLR 663 (2008); David Kershaw, *The Path of Corporate Fiduciary Law*, 8 NYU J.L. & Bus. 395 (2012).

[81] Davy Ka Chee Wu, *Managerial Behaviour, Company Law, and the Problem of Enlightened Shareholder Value*, 31 Co. Lawyer 53 (2010); R. C. Nolan, *The Continuing Evolution of Shareholder Governance*, 65(1) Cambridge L.J. 92 (2006).

[82] *Percival v. Wright* [1902] 2 Ch. 421; *Hutton v. West Cork Railway Company* [1883] Ch. Div 654.

[83] Lisa Benjamin, *The Duty of Due Consideration in the Anthropocene: Climate Risk and English Directorial Duties*, CCLR 90 (2017).

[84] L. S. Sealy, *'Bona Fides' and 'Proper Purposes' in Corporation Decisions*, 15 Monash U. L. Rev. 265, 269 (1989); Alan Dignam, *The Future of Shareholder Democracy in the Shadow of the Financial Crisis*, 36 Seattle U. L. Rev. 639, 666 (2012–2013).

[85] Alistair Alcock, *An Accidental Change to Directors' Duties?* 30 Co. Lawyer 1 (2009); Ciaran O'Kelly & Sally Wheeler, *Internalities and the Foundations of Corporate Governance*, 21 Soc. & Legal Stud. 469 (2012).

[86] Beate Sjåfjell, *Corporate Governance for Sustainability: The Necessary Reform of EU Company Law*, in *The Greening of European Business Law Under EU Law: Taking Article 11 TEU Seriously* 106 (Beate Sjåfjell & Anya Wiesbrock eds, Routledge 2015).

[87] Jacob Rose, *Corporate Directors and Social Responsibility: Ethics versus Shareholder Value*, 73(3) J. Bus. Ethics 319, 320 (2007); Andrew Johnston, *After the OFR: Can UK Shareholder Value Still Be Enlightened?*, 4 Eur. Bus. Org. L. Rev. 817, 818 (2006).

[88] Company Law Steering Group, *Modern Company Law for a Competitive Economy: Developing the Framework* 40 (2000).

[89] *Ibid.*

[90] *Ibid.*, at 10.

[91] *Ibid.*, at 14.

[92] Company Law Review Steering Group, *Modern Company Law for a Competitive Economy: The Strategic Framework* 36 (1999).

The CLRSG considered two approaches to describe what the objective of companies should be: the ESV approach, and the pluralist approach. The pluralist approach was discarded, because the CLRSG considered that it would distract directors by forcing them to manage competing considerations at the expense of economic growth and international competitiveness.[93] On the contrary, the ESV approach was described as the approach currently enshrined in English law, as this approach appeared to be consistent with the ultimate objective of companies and thus the best means of providing for overall prosperity and wealth.[94]

According to the CLRSG, the ESV 'sets as its basic goal for directors the success of the company in the collective best interests of shareholders. But it also requires them to recognise, as the circumstances require, the company's need to foster relationships with its employees, customers and suppliers, its need to maintain its business reputation and its need to consider the company's impact on the community and the working environment'.[95] The ESV approach recognizes, therefore, that a company's long-term success is dependent not only upon satisfying shareholder interests, but valuing relationships with non-shareholder constituents as well.[96]

A lot of emphasis is placed on whether Section 172 brings about a radical change as to the constituencies that directors should pay attention to. Academics are far from reaching consensus as to whether this new legislative approach provides for a new pluralistic approach to managing companies or whether Section 172 further entrenches the shareholder value approach.

Directors, when considering the long-term consequences of their actions, are required to have regard to all the factors listed in Section 172(1) and take them into consideration before taking any decision. This intellectual process should take place in the broader context of determining whether a particular course of action would be likely to promote the success of the company.[97] However, this requirement is only one of several factors mentioned in Section 172, which means that directors are expected to balance all these factors, even if there are possible conflicts between them.[98] Directors can take into account non-shareholder interests when they promote the economic interests of the company and shareholders. When this is not the case, directors may be free to disregard non-shareholder interests, and instead pursue matters that promote the success of the company. For example, environmental concerns may not be prioritized over shareholder interests, unless this promotes the success of the company and the shareholders or increases the long-term profitability of the company.[99] This is a rather challenging balancing exercise, the outcome of which ultimately depends on each individual director's skills and mindset, considering that no guidance has been provided to directors, shareholders and the courts on how this provision should be applied in practice. Judge Pelling QC in *Stimpson v. Southern Landlord Association*[100] stated that directors can act in any way they consider, in good faith, to be most likely to promote the success of the company, but where the company has mixed objectives, the interests of the members cannot be ignored. In circumstances of conflict between promoting the success of the company and benefiting the members, he states that a balancing exercise will be required.[101]

In addition, there is no real definition of, or guidance on, what long-term is. It is a very subjective concept, which cannot be defined by the legislator and it varies from one company to another and from one industry to another. The definition of 'long-term' and its incorporation in a company's business strategy rests upon the directors and can be influenced by shareholders and stakeholders.[102] If we go back to the CLRSG in 2001, it was reported that there is a convergence between the interests of shareholders and the interests of other stakeholders over the issue of the companies' long-term focus, with both served best by companies and directors that take a long-term approach to success.[103] In practice, this convergence between shareholders, stakeholders and the company is more of an exception rather than the rule.

The association of success with share prices resulted in shareholders giving priority to short-term gains and high share prices, regardless of any long-term consequences and effect on a company's sustainability. For instance, short-term investors have little or no interest in the long-term success of the company whose shares they so briefly own, but at the same time they are members of the company, whose interests the directors are required to serve, sometimes even above those of other stakeholders. The idea that the management's primary responsibility is to maximize long-term shareholder value is widely accepted in principle but imperfectly implemented in practice. Maximizing long-term value means that emphasis is given to continuing shareholders rather than momentum investors and other short-term oriented market players. To maximize value to continuing shareholders, directors must develop and effectively execute strategies that maximize the company's long-term cash flow potential.[104]

Expanding on short-term profitability and taking the example of environmental protection, Section 172 allows the adoption of a more long-term strategy in relation to climate change. If one adopts an entity approach to the company, and given that companies potentially have a perpetual existence, long-term profitability could potentially extend beyond the lifetimes of both shareholders and directors. However, the time periods over which climate change is usually measured and predicted extend hundreds of years into the future, and it is questionable

[93] *Ibid.*, at 44.

[94] *Ibid.*, at 37.

[95] Company Law Steering Group, *Modern Company Law for a Competitive Economy: Final Report* 1 (2001).

[96] CLRSG Strategic Framework, *supra* n. 93, at 41–42. *See also* Trade and Industry Committee, *The White Paper on Modernizing Company Law: Sixth Report of Session 2002–2003* 7 (HC 439 2003).

[97] John Davies, *A Guide to Directors Obligations Under the Companies Act 2006*, Association of Chartered Certified Accountants (Aug. 2007), para. 6.38.

[98] *See* among others, Andrew Keay, *Stakeholder Theory in Corporate Law: Has It Got What It Takes?*, 9 Rich. J. Global L. & Bus. 249 (2010); Wai Shun Wilson Leung, *The Inadequacy of Shareholder Primacy: A Proposed Corporate Regime that Recognizes Non-Shareholder Interests*, 30 Colum. J.L. & Soc. Probs. 589 (1997).

[99] Charlotte Villiers, *Directors' Duties and the Company's Internal Structures Under the UK Companies Act 2006: Obstacles for Sustainable Development*, University of Oslo Faculty of Law Legal Studies Research Paper Series No. 2010-03, 9 (2010). *See also Madoff Securities International Ltd (in liquidation) v. Stephen Raven & Others* [2013] EWHC 3147, para. 187 per Justice Popplewell.

[100] [2010] BCC 387.

[101] *Ibid.*, para. 399.

[102] David Millon, *New Game Plan or Business as Usual? A Critique of the Team Production Model of Corporate Law*, 86 Va. L. Rev. 1001 (2000).

[103] Bernard Sharman, *Shareholder Wealth Maximization and Its Implementation Under Corporate Law*, 66 Fla. L. Rev. 389 (2014); Thomas M. Jones & Will Felps, *Shareholder Wealth Maximization and Social Welfare: A Utilitarian Critique*, 23(2) Bus. Ethics Q. 207 (2013).

[104] Alfred Rappaport, *The Economics of Short-Term Performance Obsession*, 61 Fin. Analysts J. 65, 69 (2005).

whether directors today will either be able or willing to consider effects so far removed from the pressure of quarterly profit reporting.[105]

As Jackson and Petraki note, managers tend to be less short-term oriented when they have access to better and more accurate information regarding trade-offs between short- and long-term results.[106] While linking corporate reporting and financial performance with environmental and social goals may be useful, economic incentives, such as shareholder wealth maximization, would most likely continue to constitute a significant barrier to corporate sustainability.[107] Instilling a long-term perspective in the boardroom will be difficult while short-term interests remain high on the agenda, but Section 172 must be seen as a largely normative measure that, when combined with stakeholder pressure, the prevailing commercial climate, and a few enlightened shareholders, will encourage a more inclusive and longer-term view of what constitutes the success of the company.[108] After all, directors are given a great deal of leeway in performing their duties, as they can basically favour long- and short-term interests as the occasion calls for.[109] Every time the board is faced with a business decision, it would need to consider how that would benefit the company and the shareholders in the long term, and make decisions that are aimed at achieving that objective. This would not mean that the board must shape corporate strategy such that a company foregoes all opportunities to make current profits, but it would mean that realizing on current profits could not undermine the company's ability to generate profits in the future.[110]

In this legal context, the role of shareholders and institutional investors is therefore critical. The system of finance capital within which a company operates can dictate the time periods which directors both consider to be relevant, and within which they operate and make decisions. The divestment movement began in 2011 in US Colleges and Universities, and has since then become a global phenomenon.[111] In September 2014, the Rockefeller Brothers Fund announced its plan to decrease its investment in fossil fuels, followed by the Melinda and Bill Gates Foundation in 2016. The movement has also reached the United Kingdom and the EU, with the Church of England announcing divestments from thermal and coal tar sands, and the Irish Parliament announcing divestment in its holdings of its Strategic Investment Fund from fossil fuels in 2017. In the context of climate change, the divestment movement has gained pace and has the ability to put short-term pressure on some of the dirtiest companies such as coal and oil companies. While the divestment movement has its deficiencies, if combined with reinvestment in green finance initiatives and industries, the divestment and reinvestment movement has the capacity to be a lever of change in the context of climate change.[112]

Regulatory changes and initiatives at both international level and in the EU and UK also mirror this changing perspective of investors. The UNEP Finance Initiative (UNEP FI) has been working along with investors for a number of years in the context of climate change. The Climate Change Advisory Group is made up of insurance, investment and banking representatives and develops research, provides technical advice to industry as well as providing platforms for leadership and exchange of best practice tools. In 2018 an Investor Agenda for Climate Change was formed with other agencies which will help long-term investors with highly diversified portfolios to report low carbon investments, phase out investments in coal, sign up to initiatives such as ClimateAction100+, and improve disclosure of climate risks and opportunities through the TCFD. The UNEP FI is working on a pilot project with twenty investors adopting the TCFD recommendations by developing scenarios, models, metrics and a risk assessment tool that will aid investors in assessing climate risk across their portfolios.[113] The UNEP FI Banking Principles, developed in 2018, are a set of draft principles for sustainable banking which, among other things, encourages banks to integrate the Paris Agreement framework in to business decisions and strategies of finance institutions.[114] The Guidance recommends that banks assess where they can have the most significant impacts, set targets and create consistency between the bank's value creation model and the Paris Agreement goals.[115] The EU Pensions Directive requires that pension fund managers assess and include environmental risk, including climate change,[116] and the UK regulations require that pension fund managers report on climate risk where it poses a financially material risk to pension funds.[117]

[105] Andrew Keay, *Moving Towards Stakeholderism? Constituency Statutes, Enlightened Shareholder Value, and More: Much Ado About Little?*, 22(1) EBLR 1, 39 (2011). *See also* Andrew Keay, *Risk, Shareholder Pressure and Short-termism in Financial Institutions: Does Enlightened Shareholder Value Offer a Panacea?*, 5(6) L. & Fin. Mkts. Rev. 435, 443 (2011).

[106] Gregory Jackson & Anastasia Petraki, *How Does Corporate Governance Lead to Short-termism?*, in *The Sustainable Company: A New Approach to Corporate Governance* 203 (Sigurt Vitols & Norbert Kluge eds, ETUI 2011); Beate Sjåfjell & Benjamin J. Richardson, *The Future of Company Law and Sustainability*, in *Company Law and Sustainability: Legal Barriers and Opportunities* 280–81 (Beate Sjåfjell & Benjamin J. Richardson eds, CUP 2015). Carol Liao, *Limits to Corporate Reform and Alternative Legal Structures*, in *Company Law and Sustainability: Legal Barriers and Opportunities* 282 (Beate Sjåfjell & Benjamin J. Richardson eds, CUP 2015). Sjåfjell, *supra* n. 87.

[107] Charlotte Villier & Jukka Mähönen, *Integrated Reporting or Non-Financial Reporting?*, in *The Greening of European Business Law Under EU Law: Taking Article 11 TEU Seriously* 225 (Beate Sjåfjell & Anya Wiesbrock eds, Routledge 2015). *See also* Beate Sjåfjell, *Regulating Companies as If the World Matters: Reflections from the Ongoing Sustainable Companies Project*, 47 Wake Forest L. Rev. 113, 118 (2012).

[108] Deryn Fisher, *The Enlightened Shareholder – Leaving Stakeholders in the Dark: Will the Section 172(1) of the Companies Act 2006 Make Directors Consider the Impact of their Decisions on Third Parties?*, 20(1) Int'l Co. & Com. L. Rev. 1, 6 (2009).

[109] Usha Rodrigues, *Corporate Governance in an Age of Separation of Ownership from Ownership*, 95 Minn. L. Rev. 1822 (2011).

[110] Nadelle Grossman, *Turning a Short-term Fling into a Long-term Commitment: Board Duties in a New Era*, 43 U. Mich. J.L. Reform 905 (2010).

[111] Martina K. Linnenluecke et al. *Divestment from Fossil Fuel Companies: Confluence Between Policy and Strategic Viewpoints* Austl. J. Mgmt. 479 (2015).

[112] Lisa Benjamin, *Institutional Investors in the UK and 'Carbon Major' Companies: Private Environmental Governance Post-Paris*, 11(9) Geo. Wash. J. Energy & Envtl. L. 18–19 (2018); Benjamin J. Richardson, *Divesting from Climate Change: The Road to Influence*, 39(4) Univ. Denver L. & Pol'y 325 (2017).

[113] *See* www.unepfi.org/banking/tcfd (accessed 8 June 2019).

[114] *See* http://www.unepfi.org/banking/bankingprinciples/read-the-principles/Principle-1 (accessed 8 June 2019). The principles are in their consultation phase until May 2019.

[115] *See* http://www.unepfi.org/banking/bankingprinciples/implementation-guidance/principle-1 (accessed 8 June 2019).

[116] IORP II Directive (the successor of the Institutions for Occupational Retirement Provision Directive adopted in 2003), https://www.pensionseurope.eu/iorp-ii-directive (accessed 8 June 2019).

[117] Department for Work & Pensions, *Clarifying and Strengthening Trustees Investment Duties* (2018) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/739331/response-clarifying-and-strengthening-trustees-investment-duties.pdf (accessed 8 June 2019).

In relation to investor action on climate change, the Oxford-Martin Principles, discussed below, provide a clear approach for investors to pursue climate-friendly activities. Pressure from investors is useful to incentivize directors to take into account climate change risks and consider and assess transitions to greener and cleaner corporate decisions.[118] What is missing is regulatory requirements imposed on directors and their companies to limit emissions in keeping with safe global temperature increases. Converting initiatives, such as the Oxford-Martin Principles into regulatory requirements, is likely to encounter considerable resistance from the industry, although regulatory movements, such as the Energy Transitions and Green Growth law in France,[119] do incentivize decarbonization by disclosure of industry plans. As climate impacts increase, however, mandatory disclosure and assessment rules concerning climate risk are likely to become increasingly popular around the globe and may be used as the first step along a decarbonization regulatory pathway.

To sum up, Section 172 CA 2006 was introduced, amongst other reasons, to encourage a long-term perspective in the boardrooms and the corporate decision-making process. It constituted a step beyond the common law's narrow focus on shareholder interests, which were frequently viewed in a short-term manner. Although it represents a positive development, it remains a modest one and subtle in nature. Perhaps, in spite of the changes to Section 172, a number of new finance and fiduciary initiatives are forcing the issue of climate change and long-term thinking on to board agendas. New regulatory initiatives and social movements may also add market pressure to boardrooms regarding near-term choices in the most emission-intensive companies such as coal and oil companies. These recent changes and normative movements can also put pressure on directors to consider the investment choices and desires of their largest investors. Combined with new governance initiatives, which are described below, new temporal management perspectives could be adopted by directors.

5 New initiatives: TCFD, the Enterprise Principles and the Oxford-Martin Principles

In addition to new finance regulation and social movements, a number of new governance initiatives have been developed which encourage the assessment and disclosure of climate risk for companies. This section assesses what these new governance initiatives require of companies, whether they address temporal conflicts and are they industry specific (for example do they provide 'how to' criteria to companies on how to consider and address climate risk in the long term). While temporal conflicts remain within company law between short-term shareholder interests and long-term firm value, increased shareholder activism, along with increased and enhanced disclosure obligations on firms contained in these new initiatives, may now be coalescing to require more and better consideration of climate risks by directors.[120] A number of new initiatives are requiring large companies in particular to assess, account for and disclose their vulnerability to the impacts of climate change. These initiatives include the TCFD, Principles of Enterprise Obligations, and the Oxford-Martin Principles. A recent report to the Environmental Audit Committee in the UK is also considering mandatory ways to ensure adequate and consistent disclosure by companies of climate risk. Accounting for climate risk can highlight to Boards the benefits of a longer-term approach to decision-making.

5.1 The TCFD Reports

The risks of transition to a low-carbon economy are so great that if the re-pricing of assets occurs at an abrupt rate, it could negatively impact financial stability.[121] Mark Carney, the Governor of the Bank of England, first raised the issue in 2015 in a landmark speech called 'Breaking the Tragedy of the Horizons – Climate Change and Financial Stability'[122] where he highlighted that asset valuation horizons were much longer than the performance horizons currently employed by business, and climate change could exacerbate these temporal differences between long-term climate risks and short-term business, investment and political cycles. More recently, Mark Carney has also highlighted the 'success as failure' climate paradox; that too rapid a transition to alternative energy systems could 'destabilise markets, spark a procyclical crystallisation of losses and lead to a persistent tightening of financial conditions: a climate Minsky moment.'[123] The risk paradigm is therefore twofold: the risks of not transitioning away from fossil fuels are greater in the longer term, but the risks of too abrupt a transition can cause systemic financial risks in the shorter term.[124] Therefore, an aggressive yet stable transition to a low-carbon economy is needed, and a phased approach to achieving that trajectory could be a valuable transition strategy.

The Financial Stability Board recommended to the G20 that an industry-led disclosure task force on climate change be established to help investors assess transition plans and changes in the value of assets, and to develop recommendations for more effective climate-related disclosures.[125] The aim of the recommendations is to ensure that the effects of climate change are routinely considered in business and investment decisions, ultimately leading to smarter, more efficient allocation of global capital and smoothing of the transition to a more sustainable, low-carbon economy.[126] The inspiration for the series of reports was the acknowledgement that most businesses misunderstood the risk of climate change as solely a long-term problem, but that in fact climate-related risks and the expected transition to a low-carbon economy would affect most economic sectors and industries.[127] The most significant risks of climate change were likely to emerge over the medium and long term, but the uncertainty in the timing and magnitude of impacts present challenges to

[118] Lisa Benjamin, *Institutional Investors in the UK and Carbon Major Companies: Private Environmental Governance Post-Paris*, 9(1) Geo. Wash. J. Energy & Envtl. L. 5 (2018).
[119] Law No. 2015-992, Act of 17 Aug. 2015.
[120] Benjamin, *supra* n. 84, at 98. *See also* John Lowry, *The Duty of Loyalty of Company Directors: Bridging the Accountability Gap Through Efficient Disclosure*, 68(3) Cambridge L.J. 607 (2009); Keay, *supra* n. 106, at 29.

[121] Carney, *supra* n. 16, at 6, http://www.bankofengland.co.uk/publications/Pages/speeches/2015/844.aspx (accessed 8 June 2019).
[122] *Ibid.*
[123] Mark Carney, *Governor of the Bank of England, Chairman, Fin. Stability Bd, Address Arthur Burns Memorial Lecture, Berlin* (22 Sept. 2016) (unpublished transcript) (on file at the Bank of England).
[124] Benjamin, *supra* n. 113.
[125] Carney, *supra* n. 16.
[126] Forward, Michael R. Bloomberg, TCFD, *supra* n. 15, at ii.
[127] *Ibid.*, at ii.

businesses in understanding the potential impacts on their business, strategies and financial performance.[128]

A key gap in existing disclosure initiatives was that managers, investors and decision-makers lacked information on the financial implications of climate-related aspects to an organization's business.[129] Financial disclosures on climate change are often boilerplate, non-comparable, and lack decision-useful content for investment, insurance, and lending activities in the medium to long term.[130] This is problematic as the TCFD estimate that climate-related impacts on business may be enormous – the value of impacts on manageable assets could range from USD 4.2 trillion to USD 43 trillion between now and the end of the century.[131] These economic impacts could come from weaker growth and lower asset returns, which means many businesses may not be able to avoid economic impacts by simply shifting assets to avoid climate risk.[132] The report lays out the four major categories of financial impact in a business due to climate change. These are income statements (revenues being affected by changes to demand and supply); expenditures (costs structures and adaptation to impacts as well as capital expenditure for resilience); balance sheets (asset valuations such as long-lived assets and future investments being affected) and finally capital and financing (for example increased debt to compensate for reduced operating cash or new capital expenditures for research and development).[133]

As a result of this fragmentation of disclosure initiatives, and the scale of potential financial impacts, the FSB concluded that a common reporting framework across the G20 disclosure regimes was required. At a business level, the reports recommend that investors and businesses consider their long-term strategies in order to determine the most efficient allocation of capital, taking into account climate risk. Challenges remain, however, as to the best method for businesses to adopt in achieving this approach. The TCFD acknowledges that the large-scale and long-term nature of climate change makes it uniquely challenging in the context of economic decision-making.[134] As a result, the touch points and time frames in which climate change may affect an organization will vary.[135] The report recommends businesses start with a value chain assessment over reasonable time frames, which relate to relevant transition and physical risks on the operations and assets of a particular business, including an assessment of potential opportunities.[136] They recommend that businesses include disclosures on climate risk in their mainstream financial filings to avoid separate disclosure obligations, and also to enable the evolution of practices and techniques more rapidly (including data analytics) to improve the quality of disclosures.[137] The TCFD recommend four thematic areas of disclosure: governance, strategy, risk management, metrics and targets.[138] The strategy-building element is the most relevant in terms of the smoothing of temporal dissonances. It includes an assessment of the actual and potential impacts of climate-related risk and opportunities on the business strategy and financial planning of an organization.

The report recommends that business strategy disclosures describe what the relevant short-, medium- and long-term time horizons are, taking into account the useful life of business assets or infrastructure, and aligning those with climate-related issues manifested over the medium to long-term.[139] Specific climate-related issues should be described for each time horizon (short, medium and long) which could have a material financial impact for the business.[140] Risks and opportunities enumerated by business-relevant sectors and geographies are also relevant, as well as how climate-related issues could impact financial planning processes, time periods used, and how risks/opportunities are prioritized by the business.[141] These strategic influences should reflect a holistic picture of the interdependencies of the business and its ability to create value over time, and how climate-related impacts may affect that.[142] The process effectively meshes value-creation timeframes with climate-related time periods. Finally, the resilience of the strategy to taking into account climate scenarios should also be addressed.[143]

The final tool the report recommends is the use of scenario analysis. Scenarios are narratives which describe coherent futures, and are useful for exploring key uncertainties.[144] Scenarios can demonstrate pathways to that future and the drivers of change along the pathway.[145] Scenario analysis can test the robustness of an organization's strategy and financial plans under different plausible future states.[146] The tool is particularly useful to assess circumstances with varied possible outcomes which are highly uncertain, may evolve over the medium to longer term, and which are potentially disruptive.[147] The analysis can help a business better frame strategic issues and assess the possible range of management and business-specific responses.[148]

In its technical supplement on the use of scenario analysis, the TCFD promotes scenario analysis as a tool to enhance plan flexibility or resiliency of businesses to a range of future states to help understand how a business will perform in these future states.[149] The scenarios employed should be aggressive and include a 2°C or lower temperature thresholds, but also cover a reasonable variety of future outcomes, both favourable and unfavourable.[150] Scenario testing is useful for some climate risks and time frames, particularly transition risks across periods, but the Center for Independent Climate Research (CICERO) determines that the tool is not as useful for physical risks.[151] This is due to the fact that physical risks such as flooding and extreme events are already occurring,

[128] *Ibid.*, at 25.
[129] *Ibid.*, at 1.
[130] *Ibid.*; *see also* SASB, *SASB Climate Risk Technical Bulletin #TB001-1018 2016* (Oct. 2016).
[131] *Ibid.*
[132] *Ibid.*
[133] *Ibid.*, at 18.
[134] TCFD, *supra* n. 15, at 1.
[135] *Ibid.*, at 7.
[136] *Ibid.*
[137] *Ibid.*, at iv, v.
[138] *Ibid.*, at iv.
[139] *Ibid.*, at 20.
[140] *Ibid.*
[141] *Ibid.*
[142] *Ibid.*
[143] *Ibid.*
[144] CICERO Climate Finance, *Climate Scenarios Demystified. A Climate Scenario Guide for Investors* 6–7 (2018).
[145] *Ibid.*, at 6.
[146] TCFD, *supra* n. 15, at 29.
[147] *Ibid.*, at 30.
[148] *Ibid.*
[149] TCFD, Technical Supplement, *The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities* 1–2 (June 2017).
[150] TCFD, *supra* n. 15, at v, *ibid.*, at 2. Note that CICERO recommends testing against a range of temperature increases including up to 3°C and 4°C; *see* CICERO, *supra* n. 146, at 3.
[151] CICERO, *supra* n. 146, at 9.

and are independent of scenarios in the near future.[152] They recommend a period of stress testing which reflects the lifetime of assets under consideration, including how long that asset is exposed to climate risks.[153] CICERO also recommends that businesses use a range of climate scenarios to stress-test for transition impacts across all time periods.[154]

The TCFD Technical Supplement elaborates a process of applying scenario analysis. Initially a business should ensure that the right governance structure is in place to integrate scenario analysis into its strategic policy.[155] Businesses should then assess the materiality of climate-related risks, identify and define a range of scenarios, evaluate the business impacts including input costs, operational costs, revenues and supply chains, business interruption as well as timing issues, identify potential responses and then document and disclose the process, including key inputs, assumptions, analytical choices such as scenarios chosen, time horizons and models used, outputs, as well as potential management responses.[156] This process should identify the potential effects on the organization's strategic and financial position under each defined scenario, while identifying key sensitivities.[157]

The TCFD Guidance is therefore specifically addressed to temporal dimensions. It is voluntary in nature and therefore imposes no requirements on companies. Some of the guidance being developed is industry specific, but does not yet provide a 'how to' kit providing companies with criteria with specific time frames which measure against climate scenarios. It does, however, provide a broad set of tools which companies can begin to use in order to assess both climate risk and climate opportunities for their business. Companies can use the TCFD Guidance in order to describe specific climate-related issues for broad time horizons (short, medium and long) which can be developed by the companies.[158] Scenario analysis is a new and emerging field, and some of the data is only available at the global or macro level, and therefore the requisite granularity of data may not be available to all businesses.[159] Implementing scenario stress testing requires information that is tailored to particular sectors as well as to particular corporate characteristics.[160] As a result, it is a tool mainly used by larger business organizations at present, but more detailed scenario guidance is anticipated to be published by the TCFD in the near future. Currently the TCFD recommends that businesses take a qualitative approach to scenario analysis building that progresses and deepens over time.[161] While the recommendations are voluntary in nature, they were informed by extensive industry consultation and are likely to become industry standards. While the TCFD Guidance may not be 'adoption ready' for all companies, larger and progressive companies could both use and implement their recommendations. As highlighted by the UNEP FI, pilot projects of willing companies could provide useful lessons for what types of additional guidance and criteria are needed. In addition to voluntary disclosure regimes, legal obligations in this area are also emerging.

[152] *Ibid.*
[153] *Ibid.*
[154] *Ibid.*, at 26.
[155] TCFD Technical Supplement, *supra* n. 151, at 6.
[156] *Ibid.*, at 6–7.
[157] *Ibid.*, at 7.
[158] *Ibid.*
[159] TCFD, *supra* n. 15, at 33.
[160] CICERO, *surpa* n. 146, at 23.
[161] TCFD, *supra* n. 15, at 29.

5.2 Principles on Climate Obligations of Enterprises and the Oxford-Martin Principles

Consideration of climate change can no longer be treated as only a voluntary and peripheral issue for boards. In 2018, a prominent group of legal experts developed the Principles of Climate Obligations of Enterprises. The Principles follow on from the Oslo Global Principles which distilled general legal obligations regarding climate change. The Enterprise Principles apply only to private, commercial or industrial entities, or non-private entities that carry on commercial or industrial activities. This would include investors in some of their investment activities. The inspiration behind the Principles is the enormous contribution that businesses make to climate change, and the realization that it is impossible to achieve the required global emission reductions without major contributions from enterprises.[162] While the Principles are regarded as aspirational, and the authors acknowledge they are progressive, they also consider that as the threat of runaway climate change materializes, the law in this area will likely progress rapidly in order to meet the urgent demands of society.[163]

The Principles are wide ranging and include reduction obligations of enterprises, as well as disclosure obligations. They note that enterprises should take all reasonable steps to reduce the emissions of their activities to the point where they are no longer excessive, in the shortest time reasonably feasible.[164] It is acknowledged that specific steps, and consequentially time frames, will vary according to the circumstances of the business. Disclosures must be proportionate to the size of the enterprise and its location.[165] The Principles do give some guidance as to what should be considered material in disclosures, describing materiality as a threshold for influencing the economic decisions of stakeholders which use the organization's financial statements.[166] Some obligations apply specifically to investors to take into account the GHG emissions of any potential investment project during and after construction, as well as the borrower's ability to repay in light of the climate intensity of the project.[167]

Principle 18 specifies that short-sightedness must be avoided.[168] The Principles highlight the detrimental effect short-termism has had on the long-term outcomes for society,[169] but also acknowledge that investors in particular are under pressure to generate a return on investment in order to cope with risk, inflation and long-term investment returns.[170] In this context, the Principles are innovative. They advocate that, considering the magnitude of climate risk, investors are not only allowed but may be obligated, to

[162] *Ibid.*, at 28.
[163] The Principles also acknowledge the difficulties in temporal assessments in terms of corporate liability. Many businesses have historical emissions which the Principles do not address. *See* Expert Group on Global Climate Change, *supra* n. 17, at 33.
[164] *Ibid.*, at 146.
[165] The Oslo Principles differentiate between obligations of developed and developing countries, and the Enterprise Principles take a similar approach, differentiating between companies located in developed or developed countries.
[166] These are largely considered by the Principles to be investors. *See* Expert Group on Global Climate Change, *supra* n. 17, at 187.
[167] *Ibid.*, Principle 25.
[168] *Ibid.*, Principle 18.
[169] *Ibid.*, at 199.
[170] *Ibid.*, at 212.

invest in funds that generate less profit in the near future if and to the extent that this strategy would be the only way to avoid temperature increases above 2°C. Whether this investment approach is adopted by businesses is unclear, but the authors expect that the law will develop in this direction in the next ten to twenty years.[171]

The Principles are voluntary and so do not require any action from companies. However, the authors seek to distil legal principles that avoid the existing temporal dissonance around investment horizons and climate risks. They acknowledge that while the long-term temperature goals, or any provisions of the Paris Agreement, do not apply specifically to companies, they consider these temperature goals to be legally relevant as they are likely to colour open norms of domestic and international law.[172] As a result, they expect states, and domestic and international law, to develop in that direction, and therefore the obligations of enterprises should align in that direction as well.[173] Therefore, they make the legal argument that business time frames and climate goals should be aligned. The Principles clearly do not provide specific time frames for action – stating that taking all reasonable steps in the shortest time reasonably feasible is purposefully vague.[174] The Principles recognize that action is specific and relative, highlighting that while coal plants should be the first to be phased out, the poverty-reduction and energy needs of least developed countries should also be considered.[175] As a result, companies themselves will have to assess how to implement the Principles and what the appropriate time frames are.

At the same time as the Principles emerged, the Oxford-Martin Principles to Guide Investment Towards a Stable Climate were published. Due to the shortcomings of scenario analyses, they advocate that businesses commit to a temperature increase of 1.5°C or well below 2°C, a date before which they will achieve net-zero emissions, and to create profitable net-zero business models. The Principles also advocate that businesses include quantitative mid-term targets.[176] They consider phased, interim targets as vital to the ability to properly assess the compatibility of the business strategy with the Paris long-term temperature goals.[177] Again, while voluntary, the Oxford-Martin principles also recognize temporal dissonance and in fact recommend a phased, target-based approach. In contrast to the Enterprise Principles, the Oxford-Martin Principles are short and concise, but again rely on companies to adopt the most appropriate time frames and levels of action. They do not provide 'how to' criteria with specific guidance, but instead provide overarching principles and approaches that can be adopted by companies.

6 Industry and Sector-Specific Considerations

Companies can both benefit from improved governance on climate change, as well as spur on regulatory change by governments. Action by companies on climate change can build confidence in governments to adopt more and better climate policy and more ambitious national goals.[178] Companies can act as 'orchestrators' by coordinating national governments on climate policy implementation, aid with exchanges of knowledge and good practices, and develop international cooperative initiatives which are multi-country and multi-actor.[179] As a result, corporate action on climate change is both important and can provide a catalytic effect for governance initiatives. At the same time, companies themselves need more and better targeted governance initiatives to aid them in smoothing the temporal dissonance between climate change and short-term profit making. The relationship between good corporate governance and action on climate change is clear.

Action on climate change is now urgent and must take place within the next decade, and beyond. These timescales are well within the investment horizons of existing long-lived emitting infrastructural assets,[180] as well as management periods considered by directors. Directors must consider a wide range of climate risks and manage and report those risks. For large companies, this consideration will often involve the direct integration of climate risk into existing risk management and decision-making processes.[181] What information is considered material and disclosed, how it is disclosed and the temporal choices directors have to make is still uncertain. What is clear is that it is now reasonable for directors to take into account, at the very least, industry guidance,[182] which will certainly now include the TCFD recommendations, and possibly the Enterprise Obligations and Oxford-Martin Principles, discussed above. It is also clear that corporate governance guidance as well as Section 172 of the Companies Act 2006 provides sufficient flexibility for directors to both consider and take action on the long-term goals of the companies. New social norms and regulatory initiatives for institutional investors also provide directors with incentive to move away from short-termism, although these initiatives have not yet become mainstreamed in finance capital.

Integration time frames and other choices will be industry and sector-specific depending on the vulnerability of the business to climate risk and technological changes, and the fossil fuel intensive nature of their business models. As a result, business reactions to these initiatives are likely to vary, according to sectors. Government regulations around auto-emissions, for example, will affect that industry sooner than other industries.[183] The insurance industry has also been an early mover and active on climate change due to its higher financial exposure to climate-related extreme events.[184] Large industry players, such as the IKEA

[171] *Ibid.*, at 226.
[172] *Ibid.*, at 114.
[173] *Ibid.*
[174] *Ibid.*, at 146.
[175] *Ibid.*
[176] Richard J. Miller et al., *Oxford-Martin Principles to Guide Investments Towards a Stable Climate*, 8(2) Nature Climate Change 2 (2018).
[177] *Ibid.*

[178] UNEP 2018, *supra* n. 7, at xx.
[179] *Ibid.* Although it should be noted that corporate action is not a panacea and can act as a disincentive or delaying tactic for government regulatory action.
[180] Miller et al., *supra* n. 178, at 2.
[181] ClientEarth, *supra* n. 14, at 6.
[182] *Ibid.*, at 7.
[183] EU regulations require mandatory emission reduction targets for new vehicles, of 40% by 2021 against 2007 levels, Regulation (EC) 443/2009, https://ec.europa.eu/clima/policies/transport/vehicles/cars_en (accessed 8 June 2019), and the trend towards electric vehicles will also affect the industry, *see* Carbon Brief, *Rise of UK Electric Vehicles Sees National Grid Double Its 2040 Forecast*, https://www.carbonbrief.org/rise-uk-electric-vehicles-national-grid-doubles-2040-forecast (accessed 8 June 2019).
[184] Oliver Ralph, *Insurance Act on Climate Change Exposure*, Financial Times https://www.ft.com/content/92e19630-aba2-11e8-8253-48106866cd8a (accessed 8 June 2019).

Group, Unilever, Tesco, General Mills, L'Oréal, Walmart and McDonalds, have signed on to the voluntary Science-Based Targets Initiative. The Initiative provides a formal framework for measuring and tracking goals against the Paris Agreement temperature goals.[185] These large companies are planning emissions reductions along their supply chains as well. Corporate activity among such large industry actors demonstrates significant activity in the climate arena. Fiscal incentives, such as subsidies for renewable energy investments or carbon taxes, would further facilitate corporate action. Industries with large carbon footprints may need further incentives to act, despite high exposure and the opportunity for voluntary action. The food and beverage industry is a significant driver of climate change. Agricultural production and associated emissions, combined with deforestation and land use change, account for approximately 25% of GHG emissions.[186] The industry is also highly vulnerable to climate-induced impacts, such as drought and floods, causing crop failures and supply chain disruptions. These companies need incentives to invest in short-term emission reductions, even though these may lead to long-term financial benefits. Conflicts and trade-offs between environmental and economic goals do and will persist for these industries.[187] Fiscal incentives to transition towards green energy as well as disincentives for continuing to rely on fossil fuels are relevant to these industries. Fiscal incentives, such as carbon taxes, innovations in airline and shipping emissions, as well as changing diet and consumption habits are also required, but may take longer to implement and become effective. A wide array of regulations and financial incentives may be needed, but clarification that Section 172 allows directors to make investments in long-term energy efficient vehicles, buildings and product choices would also be useful for directors.

There are a number of new governance initiatives, which are available to companies and their directors to begin the smoothing of temporal dissonance between short-term corporate time horizons and the long-term impacts of climate change. As assessed above, most of these initiatives currently only provide broad sets of principles and guidance to directors, and do not yet provide the requisite specificity and 'how to' toolkits for companies to assess climate risk. The TCFD has come closest with its recommendations of scenario analysis. It is developing a set of industry-specific guidance and is likely to develop further and more specific guidance in the future. The outcomes of the UNEP FI pilot project will also likely provide important lessons for international governance regimes on how to produce better guidance and criteria. Companies will require this specific guidance in order to adopt a phased approach to reducing the gap between long-term climate goals and short-term business horizons. Further regulatory specificity is also required. The Climate Change Act 2008 imposes national emission reduction targets, which are focused on the long term.[188] It is the responsibility of the government to implement these targets, and to create plans for the industry to align their emissions accordingly. This is done through interim carbon budgets over five-yearly time periods, and the Act places an obligation on the government to prepare policies to meet these budgets as well as to produce a UK Climate Change Risk Assessment Report every five years.[189] While the Clean Growth Strategy is primarily a tool to achieve these aims, specific policies on industry-specific emission reductions are currently lacking.[190] In addition to more industry-specific regulatory guidelines, addressing climate change also means addressing corporate governance deficits. Existing corporate governance structures assume good risk management schemes are already in place. The TCFD itself recognizes that businesses must have the right governance structure in place in order to properly integrate scenario analysis into their strategic planning.[191] As a result, good corporate governance is a prerequisite for both adoption and implementation of more specific tools and guidance. The nexus between corporate governance and action on climate change is therefore closely linked.

Where good corporate governance structures exist within companies which pay proper attention to long-term interests, these new climate governance initiatives will be considered as broad, useful tools and principles which will assist directors in navigating the complex arena of climate impacts, climate risks and their financial implications. More specific tools are already being developed. The Church of England Pensions Board and the Environment Agency Pensions Fund are developing a free online toolkit called 'The Transition Pathway Initiative' which analyses fossil fuel and energy intensive companies' plans to transition to sustainable business models. The tools available certainly have their gaps and inadequacies. There is a lack of robust and cost-effective quantification tools of the potential impacts of climate change risks and opportunities at the asset and project level.[192] There is also considerable variability of climate-related impacts across and within sectors, and also a high degree of uncertainty around the timing and magnitude of climate risks.[193] This makes assessing disclosure risks and potential business-specific impacts difficult. Businesses must also be careful in considering linkages between scenario analyses and assessing the potential impacts on cash flow and expenditures, as well as the resilience of an organization's strategy.[194]

A recent House of Commons Environmental Audit Committee report looked specifically at the issue of short-termism and its consequences in the context of climate change and other environmental issues.[195] Short-termism leads to a tendency to

[185] *See* for more details, https://sciencebasedtargets.org. For example, General Mills has adopted a science-based target to cut its GHG emissions by 28% by 2025 in part by employing farmers to adopt sustainable practices.

[186] Oxfam, *Feeding Climate Change: What the Paris Agreement Means for the Food and Beverage Industry* 2 (2016), https://www.oxfamamerica.org/static/media/files/bp-feeding-climate-change-270616-en_6jfKSQg.pdf (accessed 8 June 2019).

[187] Carrie Bradshaw, *The Environmental Business Case and Unenlightened Shareholder Value*, 33(1) Legal Stud. 141, 142 (2013).

[188] Pursuant to s. 1(1) of the Climate Change Act 2008, targets are focused on 2050.

[189] The Department for Business, Energy and Industrial Strategy is primarily responsible for emission reduction policies, partly implemented in the Clean Growth Strategy which relies on expanding the offshore green energy production as well as technological innovation in offshore wind, power electronics for low carbon vehicles and electric motors and global leadership on green finance.

[190] The Clean Growth Strategy anticipates a number of these policies to include improving energy efficiency of new and existing commercial buildings, industrial energy efficiency scheme helping large companies install measures to cut their energy use and publishing joint industrial decarbonization plans and energy efficiency plans.

[191] TCFD, *supra* n. 15.

[192] *Ibid.*, at 36.

[193] *Ibid.*

[194] *Ibid.*, at 38.

[195] House of Commons Environmental Audit Committee, *Greening Finance: Embedding Sustainability in Financial Decision Making*, Seventh Report of Session 2017–2019 (4 June 2018).

underinvest in physical assets, technical innovation and employees' skills in preference for nearer term gains.[196] Investment banks and credit rating agencies also do not sufficiently incorporate long-term considerations despite sustainability risks being of material importance for a company's performance and credit worthiness.[197] The nature of stock exchanges themselves being listed companies can incentivize increased trading volumes, and investment consultants for pension funds have fee incentive structures that drive the short-term outlook which can influence capital allocation.[198] The report concludes that climate change and other environmental problems pose financially material threats to the economy, and the focus on short-term returns often lead to the neglect of longer-term considerations such as climate-related risks and opportunities.[199] They recommend that the government clarifies that pension schemes and company directors have a fiduciary duty to protect long-term value and should be considering environmental risks in the light of this obligation.[200] They also note the weakness of the voluntary approach, thus recommending that reporting become mandatory on a 'comply or explain' basis by 2022. They also recommend that the government issues guidance making it clear that the Companies Act 2006 already requires companies to disclose climate change risks, where they are financially material, and that the FRC Corporate Governance Code and the UK Stewardship Code as well as the FCA's Listing Rules be likewise amended to require climate-related financial disclosures on a 'comply and explain' basis by 2022.[201] They also recommend that the government works with the Committee on Climate Change to determine appropriate baseline policies and climate change scenarios that can be used off-the-shelf as reference scenarios by companies and asset owners.[202] The relationship between long-term corporate governance and climate change is now aligning even more closely in regulation.

7 Conclusion

> *Climate change and other sustainability issues are predominantly about future consequences. We do know that business as usual will jeopardize nature, human life, the economy and by the same token investments. Hence, a short-term perspective is no longer acceptable.*[203]

We are experiencing the impacts of climate change now, and the impacts are anticipated to become more severe and pervasive over time. Short-term operational and financial planning cycles of 1–2 years and 2–5 years respectively are still too short to incorporate climate risks, which may have implications over longer periods of time.[204] The TCFD purposefully did not define relevant time frames as these will vary across organizations,[205] and wanted to encourage businesses to decide how to define their own climate-business relevant time frames. As a result, there may not be at present a natural 'fit' between business and climate time frames, and an extension of business time frames may have to be made. Some of these activities may include what directors consider 'crystal ball' examinations, but risk management strategies are designed to accommodate levels of uncertainty.

In terms of future action and recommendations for better environmental governance initiatives, further and better guidance, as well as easily accessible scenarios should be made available to companies in order to enable a business to identify and assess business-specific climate risks and incorporate these risks into existing risk management processes, as well as elaborate their potential financial implications for stakeholders. Exchanging of experiences and expertise within sectors is likely to facilitate the adoption of successful reporting and management models as well. Pilot projects such as the UNEP FI project adopting the TCFD recommendations is a good start. In addition, the nexus between long-term corporate governance and the short, medium and long-term impacts of climate change should be highlighted for directors. Companies require existing and robust corporate governance structures which both consider and reward long-term management in order for new climate governance initiatives to be successfully implemented. Corporate boards must learn to develop, report and implement a type of 'climate solvency' where positive long-term contributions to a community's climate balance sheet is developed, including a margin for risk.[206]

Better and more accurate information about climate risk using tools such as scenario analysis can help to smooth the temporal dissonance between climate change and corporate short-termism and aid in the global transition away from fossil fuels towards a safer climate future. Specific tools can provide a roadmap to directors to adopt a phased approach to reducing emissions, the risk of climate change to their business, as well as highlight climate opportunities. Whether this phased approach will spur a transition that is timely enough to avoid catastrophic climate change is questionable, and the answer still remains unclear.[207]

[196] *Ibid.*, at 9.
[197] *Ibid.*
[198] *Ibid.*
[199] *Ibid.*, at 3.
[200] *Ibid.*
[201] *Ibid.*
[202] *Ibid.*, at 27.

[203] Expert Group on Global Climate Change, *supra* n. 17, at 212.
[204] TCFD, *supra* n. 15, at 38.
[205] *Ibid.*
[206] International Legal Symposium, *Climate Change Risk and Corporate Governance Directors' Duties and Liability Exposures in a Post-Paris World* (29–30 Aug. 2016), University of Melbourne, https://ccli.ouce.ox.ac.uk/wp-content/uploads/2017/10/CCLI-MelbourneSymposiumAugust2016-Highlights.pdf (accessed 8 June 2019).
[207] Lisa Benjamin & Stelios Andreadakis, *Climate Change and Corporate Governance – A Phased Approach to Smoothing Temporal Dissonance* (5 July 2018), Guest Blog Post on SMART: Sustainable Market Actors for Responsible Trade, https://www.smart.uio.no/blog/climate-change-and-corporate-governance.html.