



**Shareholder Activism on Climate Change:
Strengths and Limitations of
Resolutions, Engagement,
and Fossil Fuel Divestment**

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MSc Corporate Governance and Business Ethics

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To those who stood by me and brought me back to health,

Minha gratidão eterna

To the lecturers of the Management Department who helped me

“join the dots” between governance, climate and finance

Abstract

This dissertation assesses investors' capacity to incite change in the high-carbon energy sector as shareholders of fossil fuel companies. Over the last few years, shareholder activism on sustainability and climate change issues has surfaced as a prominent movement. As fiduciaries and universal owners with holdings across the economy, endowments, pension funds and similar institutional investors are highly vulnerable to climate risks. This study will argue that three different approaches to shareholder activism – resolutions, engagement, and divestment – each with its strengths and limitations, complement and reinforce each other and should not be framed in opposition.

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1. Introduction

Climate change is one of the most financially relevant environmental issues facing investors today. While some environmental risks can be relevant to specific sectors, climate change risk has a widespread potential for impact on individual companies, across sectors and whole economies¹. Investment risk may come from direct impacts on specific assets and sectors in which they invest (e.g. physical risks), and from indirect impacts through the broader effects on economic stability and the policy responses to mitigate the effects of climate change (e.g. regulatory, competitive, and reputational risks).

The financial sector, in particular large institutional investors who manage the pensions and saving funds of millions of ordinary people, has a pivotal role to play in the fight against climate change². There are two main reasons for this:

- 1) First, large amounts of capital are needed for investment in the development of a low-carbon energy infrastructure³. The global economy faces a shortfall in

¹ Carbon Trust & IIGCC (2005) *A Climate for Change – A Trustee’s guide to Understanding and Addressing Climate Risk*. Available at [<https://www.carbontrust.com/media/84964/ctc509-a-climate-for-change-a-trustees-guide.pdf>]

² UNEP FI Climate Change Advisory Group and Investment Commission (July 2013) *Portfolio Carbon – Measuring, disclosing and managing the carbon intensity of investments and investment portfolios*. Available at [http://www.unepfi.org/fileadmin/climatechange/UNEP_FI_Investor_Briefing_Portfolio_Carbon.pdf]

³ UNEP FI Climate Change Advisory Group and Investment Commission (July 2013) *Portfolio Carbon – Measuring, disclosing and managing the carbon intensity of investments and investment portfolios*. Available at [http://www.unepfi.org/fileadmin/climatechange/UNEP_FI_Investor_Briefing_Portfolio_Carbon.pdf]

long-term finance comparative to estimated capital demand and climate targets. Whilst the International Energy Agency (IEA) estimates that USD500 billion of annual additional investment needs to be mobilised over the next decade, low-carbon finance reached only USD360 billion in 2010-11⁴. In the UK alone, the decarbonisation of the power sector will require approximately GBP110 billion of annual investment until 2030 according to the Committee on Climate Change⁵. This shows that the amount of capital required is on a scale beyond the reach of public finance alone, especially at a time of economic hardship, with many governments focused on cutting spending and lowering the public debt. In the OECD member countries alone, institutional investors – including pension funds, insurance companies, endowment funds, and mutual funds – have over EUR70 trillion of assets under management, which can potentially be invested in the low-carbon assets⁶.

- 2) Second, and perhaps more importantly, institutional investors are owners and creditors of large segments of the global economy via investments in capital markets - e.g. public equity (stocks or shares) and low cost debt (bonds)⁷. As

⁴ 2° Investing Initiative [2°ii] (July 2013) From Financed Emissions to Long-Term Investing Metrics. State-of-the-Art Review of GHG Emissions Accounting for the Financial Sector. *2° Investing Initiative*. Available at: [<http://2degrees-investing.org/#/>]

⁵ UK Climate Change Committee (December 2010) Fourth Carbon Budget report, pages 40-41. Available at: [<https://www.gov.uk/government/news/cc-c-publishes-its-fourth-carbon-budget-report>]

⁶ OECD (February 2013) The Role of Banks, Equity Markets and Institutional Investors in Long-Term Financing for Growth and Development. Report for G20 Leaders. *OECD*. Available at: [<http://www.oecd.org/finance/private-pensions/G20reportLTFinancingForGrowthRussianPresidency2013.pdf>]

⁷ UNEP FI Climate Change Advisory Group and Investment Commission (July 2013) Portfolio Carbon – Measuring, disclosing and managing the carbon intensity of investments and investment portfolios.

shareholders, they have immense influence in the corporate world and are able to incite change through different channels, including engaging in dialogue with the management team of the companies or filing resolutions to be voted at the shareholders' Annual General Meeting (AGM). According to estimates, institutional investors owned 50.6% of the U.S. equity market by value in 2009, or 70.3% of the top 1,000 U.S. corporations by market capitalisation⁸.

Also relevant is the fact that the bulk of institutional investors' capital is invested in conventional asset classes such as listed equity and corporate bonds. Direct infrastructure investment represented just 1% of pension fund assets on average across OECD countries in 2011⁹. Therefore, investors have an enormous potential to help decarbonise the economy through their presence in financial markets. As shareholders of companies, they can influence corporate behaviour, and their allocation of capital sends strong signals to markets and regulators as to where opportunities and risks lie. The manner in which these institutional investors invest and discharge their responsibilities as the owners of companies is, consequently, of great importance to society as a whole.

UNEP FI. Available at:

[http://www.unepfi.org/fileadmin/climatechange/UNEP_FI_Investor_Briefing_Portfolio_Carbon.pdf]

⁸ The Conference Board (2010) *The 2010 Institutional Investment Report: Trends in Asset Allocation and Portfolio Composition*. *The Conference Board*. Available at [<http://www.conference-board.org/publications/publicationdetail.cfm?publicationid=1872>]

⁹ OECD (February 2013) *The Role of Banks, Equity Markets and Institutional Investors in Long-Term Financing for Growth and Development*. Report for G20 Leaders. *OECD*. Available at [<http://www.oecd.org/finance/private-pensions/G20reportLTFinancingForGrowthRussianPresidency2013.pdf>]

This dissertation will focus on the second point above. In particular, it will focus on shareholders' capacity to incite change in the high-carbon energy sector as shareholders of fossil fuel companies. Over the last few years, shareholder activism on sustainability and climate change issues has surfaced as a prominent movement. Alert to recent weather extremes and informed by a new body of literature on the financially material effects of climate change¹⁰, shareholders are submitting more resolutions and engaging more with the management of fossil fuel energy companies. In parallel, a fossil fuel divestment movement is growing in numbers and geographical reach.

There are two unifying themes running throughout this dissertation. The first is a substantive focus on the issue of climate change risks. The dissertation strives to understand the processes by which climate change has become defined as a financial and material risk to institutional investors. The new body of literature on stranded assets and unburnable carbon is an important point in this discussion.

The second unifying theme is a focus on shareholder activism as an important force in the transition from a fossil fuel to a low-carbon economy. Three approaches to shareholder activism – resolution, engagement and divestment – are analysed with a view to identifying their strengths and limitations in contributing to the transformation of the energy sector, and understanding how they interact and complement each other. Importantly, this dissertation aims to show that a change is underway in terms of how the broader base of investors understands climate change and climate risks might impact long-term shareholder value.

¹⁰ International Energy Agency. 2012 World Energy Outlook. *International Energy Agency*.

2. Literature review

2.1 Separation of ownership and control

Theoretical problems relating to the publicly traded corporation arise when the ownership of corporate securities becomes separated from managerial control. The market for stock ownership has grown since the early decades of the 20th century, with wide mergers uniting many comparatively small firms into big multi-unit enterprises. The work of Chandler¹¹ offers a good analysis of this period in which the “visible hand” of management came to replace Adam Smith’s invisible hand of the market. He explains that with the development of mass production, the volume of economic activities reached a level that made administrative coordination more efficient than market coordination¹². As a consequence, multi-unit businesses managed by a hierarchy of salaried executives started to replace small, family-oriented enterprises¹³.

This concentration of economic power in the form of large-scale organisations, and the widening of stock ownership as it became increasingly difficult for the original owners to maintain their majority stockholdings, gave rise to a growing separation of ownership from control. From this, follows one of the most important concepts in the corporate governance literature – the so-called agency problem: managers (agents) may seek to maximise their own utility (for instance, short-term payback to help

¹¹ CHANDLER, A. D. (1977). *The Visible Hand: The Managerial Revolution in American Business*. Cambridge, MA: Belknap Press of Harvard University Press.

¹² Ibid.

¹³ Ibid.

further their own promotional prospects) at the expense of shareholders (principals), present and future.

The problems associated with the separation of equity ownership and management control have been explored by many scholars over the last century. The work of Berle & Means, for instance, was seminal in recognising that professional managers have interests not necessarily in line with those of the shareholders whom they are expected to represent¹⁴. It also highlighted that diffused shareholders are inclined to take a passive approach and entrust capital despite the lack of access to formal contractual means to monitor managers.¹⁵

Other scholars have focused on the existing mechanisms that align the interests of managers and shareholders and prevent corporate insiders from behaving opportunistically. Examples include: market-based mechanisms such as competition in the labour market for managers¹⁶; the market for corporate control where investors initiate takeovers and buyouts in order to bring about fundamental corporate changes¹⁷; the use of stock options as executive compensation tools¹⁸; auditing and

¹⁴ BERLE, A.A. & MEANS, G.C. (1968 - First published in 1932) *The modern corporation and private property*. New York: Harcourt, Brace & World.

¹⁵ Ibid.

¹⁶ ALCHIAN, A.A. & DEMSETZ, H. (1972). Production, Information Costs, and Economic Organization. *The American Economic Review*, 62:5, 777-795.

¹⁷ FAMA, E., (1980). Agency Problems and the Theory of the Firm. *Journal of Political Economy*, 88(2), pp. 288-307.

¹⁸ JENSEN, M. & MURPHY, K.J. (1990). Performance pay and top-management incentives. *Journal of Political Economy*, 98, 225–262.

independent verification of accounting data¹⁹; and internal mechanisms such as monitoring by shareholder-elected Board of Directors²⁰.

2.2 Shareholder activism: Hirschman's exit, voice, and loyalty

Following Gillan & Starks²¹, this dissertation is based on an understanding of shareholder activism as a continuum of responses to corporate performance. For this purpose, Hirschman's typology is a useful starting point²². He explains that shareholders can choose between "exit, "voice" or "loyalty" when dissatisfied with corporate behaviour or performance²³. "Exit" occurs when a shareholder "votes with his feet" and sells his shares in the organization, sending indirect signals to corporate insiders²⁴. Indeed, there is evidence to believe that, in some cases, the act of selling shares can exert disciplinary pressure on management. For instance, Parrino et al. suggest that a shift in ownership composition away from informed and prudent institutional investors may influence the Boards of Directors when deciding whether to force a CEO from office and in selecting a new CEO²⁵. Similarly, Admati &

¹⁹ WATTS, R.L. & ZIMMERMAN, J.L., (1986). *Positive Accounting Theory*. Prentice-Hall, Englewood Cliffs, NJ.

²⁰ FAMA, E.F. & JENSEN, M., (1983). Separation of Ownership and Control. *Journal of Law and Economics* 26, pp. 301–325.

²¹ GILLAN, S., & STARKS, L., (1998). A survey of shareholder activism: motivation and empirical evidence. *Contemporary Finance Digest* 2, 10-34.

²² HIRSCHMAN, A.O. (1970). *Exit, Voice, and Loyalty*. Cambridge MA: Harvard University Press.

²³ Ibid.

²⁴ Ibid.

²⁵ PARRINO, R., SIAS, R.W. & STARKS, L.T., (2003). Voting With Their Feet: Institutional Ownership Changes Around Forced CEO Turnover. *Journal of Financial Economics* 68, 3-46.

Pfleiderer find that the credible threat of exit on the basis of private information – known as “The Wall Street Walk” – is an effective form of shareholder activism that can help discipline management and improve corporate governance²⁶.

In Hirschman’s typology, “voice” occurs when shareholders express their dissatisfaction by filing shareholder resolutions, voting at AGMs, engaging in private negotiations with management and directors, or mustering media attention²⁷. As opposed to market-based exit behaviour, “voice” instruments are attempts to directly govern the usage of the equity capital represented by the ownership of shares²⁸. Finally, shareholders may also opt for “loyalty” or do nothing, which, according to Hirschman, may happen when a shareholder feels attached to the organization²⁹.

Hirschman’s work is of much use to this dissertation, which is focused on the strengths and limitations of three key approaches to shareholder activism. The first two are i) shareholder resolutions and ii) engagement, which are part of the broad strategy that has been referred to as “voice”. The third approach is iii) divestment, which stands for Hirschman’s definition of exit.

- i) Resolutions are non-binding advisory proposals submitted by shareholders for a vote at the company's annual general meeting (AGM). They are included in a firm’s proxy statement and are voted upon by all

²⁶ ADMATI, A.R. & PFLEIDERER, (2009). The "Wall Street Walk" and Shareholder Activism: Exit as a Form of Voice. *Review of Financial Studies*, Society for Financial Studies, vol. 22(7), pages 2445-2485, July.

²⁷ HIRSCHMAN, A.O. (1970). *Exit, Voice, and Loyalty*. Cambridge MA: Harvard University Press.

²⁸ Ibid.

²⁹ Ibid.

shareholders. Resolutions may pertain to company policies and procedures, corporate governance, issues of social responsibility, human rights, environmental concern, etc. In the US, shareholder proposal rule allows the filing of resolutions by any shareholder who owns at least US\$2,000 or 1% of the company's shares and has held them continuously for the past year.

In the UK, resolutions are a potentially more powerful governance device than U.S. counterparts, partly because they are legally binding and partly because UK shareholders have a statutory right to elect directors and call special meetings where proposals can be presented³⁰. As explained by Buchanan et al., because U.S. proxy rules emphasise shareholder participation and protection rather than empowerment, shareholder proposals initiated in the U.S. are less onerous and significantly more numerous (after controlling for the number of firms in the countries)³¹.

- ii) For the purpose of this dissertation, the term engagement encompasses a series of actions that investors can take including raising concerns or making suggestions about company practices directly to its directors via correspondence or face-to-face meetings. Investors are often engaged in discussions with companies that lead to shareholder resolutions being withdrawn before they go up for a vote. The submission of shareholder

³⁰ BUCHANAN, B. et al., (2012). Shareholder Proposal Rules and Practice: Evidence from a Comparison of the US and UK. *American Business Law Journal*, Volume 49, Issue 4, pages, 739–803, December 2012.

³¹ Ibid.

resolutions and engagement are two highly connected forms of activism.

- iii) Divestment is a socially motivated activity of private wealth owners who decide to withhold their capital from firms engaged in a reprehensible activity³². Individual shareholders, institutional investors such as pension funds and university endowments, or their appointed asset managers can divest by selling stock market-listed shares, private equities, or debt. Examples of divestment campaigns in the 20th century include tobacco, armaments, and corporations in apartheid South Africa.

2.3 Theories of shareholder activism and the problem of collective action

In rational economic theory, shareholder activism is a public good and shareholder passivity is inevitable. This occurs because the costs of engaging in activism are specific to the active shareholder (time and money spent on meetings with management, resolution filing, coalition building, legal risks, etc.), whereas the benefits of a successful action are available to all, including non-contributing shareholders³³. For this reason, for the typical minority shareholder exit and passivity are normally more attractive strategies than costly voice³⁴.

³² KAEMPFER, W.H., et al. (2009) Divestment, Investment Sanctions, and Disinvestment. *International Organisation*, volume 41, issue 3, 457-473.

³³ OLSON, M. (1965). *The Logic of Collective Action: Public Goods and the Theory of Groups*. Cambridge, MA: Harvard University Press; ADMATI et al. (1994). Large Shareholder Activism, Risk Sharing, and Financial Market Equilibrium. *Journal of Political Economy* 102(6): 1097-1130.

³⁴ JANSSON, A. (2007). *Collective Action Among Shareholder Activists*. Thesis for the degree of Doctor of Philosophy, Växjö University, Sweden.

However, with the growth of institutional ownership from the 1980s onwards, particularly by public pension funds and mutual funds, large shareholders have become increasingly active³⁵. The 1980s were also marked by a number of environmental issues and accidents that contributed to climate and environmental awareness. These include the Montreal Protocol, Bhopal, Chernobyl, and Exxon Valdez. Six months after the Exxon Valdez oil spill, a small group of investors and environmentalists launched the non-profit alliance Coalition for Environmentally Responsible Economy (Ceres) with the goal of changing corporate environmental practices. Ceres is, until today, one of the most influential organisations dedicated to changing capital market practices to incorporate long-term environmental and social risks.

The growth of institutional ownership marked the beginning of the so-called investor or fiduciary capitalism era and encouraged a number of theoretical and empirical studies on shareholder activism. For instance, Black observed that shareholders are more likely to become active for process and structural issues that exhibit economies of scale, and less likely to become active for company-specific issues³⁶. Scale economies can lead an institution to offer more proposals and promote them more vigorously across different companies³⁷. Similarly, Ryan & Schneider defined investor activism as “the use of power by an investor either to influence the processes or outcomes of a given portfolio firm or to evoke large-scale change in processes or

³⁵ BROWN, C. (1998). Rise of the institutional equity funds: Implications for managerialism. *Journal of Economic Issues*, 32: 803-821; BLACK, B.S. (1990) Shareholder Passivity Reexamined. *Michigan Law Review*, Vol. 89, pp. 520-608.

³⁶ BLACK, B.S. (1990) Shareholder Passivity Re-examined. *Michigan Law Review*, Vol. 89, pp. 520-608.

³⁷ Ibid.

outcomes across multiple firms through the symbolic targeting of one or more portfolio firms”³⁸. This helps explain, for instance, the growth of activism around issues that are increasingly global and replicable across companies – such as sustainability and climate change.

Within the mainstream literature that expanded after the 1980s, the theory that dominates is of shareholder activism representing a response to an opportunity to increase corporate performance and share price of the targeted corporation³⁹. Alchian & Demsetz present an early account of this commonly held view: “Without capitalization of future benefits, there would be less incentive to incur the costs required to exert informed decisive influence on the corporation’s policies and managing personnel”⁴⁰. The potential increase in share price that can be seized by the activist is traded off against the cost of the activism. Large investors, therefore, are considered the most likely to engage in activism because they have a greater financial incentive to do so and cannot easily sell their shares without negatively impacting the firms’ market value⁴¹.

However, the idea that shareholders are moved by financial incentives has not always

³⁸ RYAN, L.V. & SCHNEIDER, M. (2002) The Antecedents of Institutional Investor Activism. *Academy of Management Review* 2002, Vol. 27, No. 4. 554-573

³⁹ LEECH, D. (1987). Ownership Concentration and the Theory of the Firm: A Simple-Game-Theoretic Approach. *Journal of Industrial Economics* 35(3):225-240; ADMATI et al. (1994). Large Shareholder Activism, Risk Sharing, and Financial Market Equilibrium. *Journal of Political Economy* 102(6): 1097-1130; MAUG, E. (1998). Large Shareholders as Monitors: Is There a Trade-Off between Liquidity and Control? *Journal of Finance* 53(1): 65-98.

⁴⁰ ALCHIAN, A.A. & DEMSETZ, H. (1972) Production, Information Costs, and Economic Organization. *American Economic Review* LXII, no. 5 (December): 777-795.

⁴¹ VISHNY, R.W. & SHLEIFER, A. (1986) Large Shareholders and Corporate Control, *Journal of Political Economy*, 94(3, Part 1), pp. 461–88.

been supported by empirical data⁴². For instance, Karpoff suggests that public announcements of shareholder interventions may be interpreted negatively by the market and result in decreasing stock returns⁴³. Similarly, according to Prevost & Rao, shareholder proposals are a public display of dissatisfaction with management and may indicate that negotiations behind the scene have failed, which explains why share prices are sometimes impacted negatively⁴⁴.

Given the lack of empirical support, the mainstream view that shareholders always respond to poor performance with the objective of increasing share price needs to be challenged. If shareholder activism does not necessarily increase returns – but has continued to expand since the 1980s – then alternative rationales must exist to explain shareholders’ motivations to act.

Clarke explains that large institutional holdings that have come to replace a multitude of individual investors are often compelled to invest in all large listed corporations to balance their portfolios⁴⁵. Because exiting poorly performing companies would lead to an unbalanced portfolio, these investors have become increasingly active in engaging with companies in which they invest through regular meetings or

⁴² DAILY, C.M. et al. (2003) Governance Through Ownership: Centuries of Practice, Decades of Research. *Academy of Management Journal*, 46, 2: 151–8; GUERCIO, D.D. & HAWKINS, J. (1999) The motivation and impact of pension fund activism. *Journal of Financial Economics*, Elsevier, vol. 52(3), pages 293-340, June; KARPOFF et al. (1996) Corporate governance and shareholder initiatives: Empirical evidence. *Journal of Financial Economics*, 42(3): 365-395

⁴³ KARPOFF, J.M. (2001) The Impact of Shareholder Activism on Target Companies: A Survey of Empirical Findings. *Working Paper*, University of Washington.

⁴⁴ PREVOST, A.K., & RAO, R.O. (2000) Of what value are shareholder proposals sponsored by public pension funds? *Journal of Business* 73, 177-204.

⁴⁵ CLARKE, T. (2013). Shareholder Activism: The Virtuous and the Venal. The Conversation. Available at [<http://theconversation.com/shareholder-activism-the-virtuous-and-the-venal-19101>]

shareholder resolutions⁴⁶. From this perspective, investors are more active because exiting is not regarded as a viable option.

An important contribution was made by Jansson who argues that divergences from the economically rational path are common because, in many cases, considerations other than those based on economic calculation are important to shareholders⁴⁷. These include, for instance, network reputation and public image considerations, or retaliation against what they consider to be unfair actions by corporate insiders, even if there are no prospects that the financial yield from the action will cover the costs⁴⁸.

Also relevant is the work of Sikavica & Hillman who suggest that a more cognitive approach is needed in the study of shareholder activism⁴⁹. Building on Hirschman's typology of exit, voice and loyalty, the authors propose that shareholders holding varying levels of legal and "psychological ownership" develop different relationships with the company, place emphasis on disparate objectives and, therefore, use different forms of activism⁵⁰. Shareholders who identify with being an owner of the organization will hazard the consequences of short-term stock drops if they perceive the action to be important for the company's long-term survival⁵¹. According to this view, these shareholders are interested in the corporation – not just

⁴⁶ Ibid.

⁴⁷ JANSSON, A. (2007). *Collective Action Among Shareholder Activists*. Thesis for the degree of Doctor of Philosophy, Växjö University, Sweden.

⁴⁸ Ibid.

⁴⁹ SIKAVICA, K. & HILLMAN, A. (2013) Combining Financial and Psychological Insights for a new Typology of Ownership. *Working Paper*, Munich School of Management and Arizona State University.

⁵⁰ Ibid.

⁵¹ Ibid.

the share – and may display a set of behaviour that mirrors “economic irrationality” such as acquiring the object with little regard for price, or difficulty discarding the object, and will be more prone to voice or loyalty strategies as opposed to exit⁵².

Another important study in the area was conducted by Sullivan & Mackenzie, with a particular focus on shareholder activism on climate change⁵³. The authors concluded that, even though financial considerations are ultimately the main reason behind shareholder activism, the scope of investors’ interests can be substantially broader and longer term than often assumed⁵⁴. This is supported by the universal investor argument, which suggests that large investors are permanent shareholders in many of the largest companies and, for this reason, are more concerned about issues that affect the economy as a whole⁵⁵. Allowing increased GHG emissions by an individual company - even if inaction benefits the polluter in the short-term - would expose the rest of the economy to the physical impacts of climate change. According to Sullivan and Mackenzie, this would explain why investors have started to engage more forcefully with companies and policy-makers on climate change issues⁵⁶.

⁵² Ibid.

⁵³ SULLIVAN R., & MACKENZIE, C. (2008). Can Investor Activism Play a Meaningful Role in Addressing Market Failures? *Journal of Corporate Citizenship*. Autumn 2008, Issue 31, p77-88. 12p.

⁵⁴ Ibid.

⁵⁵ HAWLEY, J., & WILLIAMS, A. (2000) *The Rise of Fiduciary Capitalism*. Philadelphia, PA; University of Pennsylvania Press.

⁵⁶ SULLIVAN R., & MACKENZIE, C. (2008). Can Investor Activism Play a Meaningful Role in Addressing Market Failures? *Journal of Corporate Citizenship*. Autumn2008, Issue 31, p77-88. 12p.

3. Methodology

3.1 Research question

Research question: What are the strengths and limitations of approaches to shareholder activism in fossil fuel listed companies? In particular, three approaches are assessed - resolutions, engagement, and fossil fuel divestment – in an effort to understand if/ how they contribute to spur action on climate change.

3.2 Research methods and theoretical framework

This dissertation is focused primarily on the U.S. market, where shareholder activism is more prominent and the practice of filing resolutions at companies considerably more widespread⁵⁷. Moreover, like all previous divestment campaigns, the fossil fuel divestment movement has started in the U.S. and, in the short-term, has focused on U.S.-based investors.

Resolutions submitted by shareholders and voting results from AGMs are public domain, compiled by a number of advocacy groups such as Ceres, ICCR (Interfaith Center on Corporate Responsibility), As You Sow, and ShareAction, or announced on investors' websites through press releases. A central part of this dissertation involved accessing and analysing shareholder resolutions on climate change over the last ten years approximately.

⁵⁷ ShareAction (undated) A Guide to Shareholder Resolutions in the UK. *ShareAction*. Available at [http://www.shareaction.org/sites/default/files/uploaded_files/whatyoucando/ShareholderResolutionGuide.pdf]

Engagement efforts are harder to quantify. They normally happen ‘behind closed doors’ and do not necessarily become public, which makes it hard for researchers to assess its efficacy. Engagement can happen independently of resolutions; shareholders are free to request meetings with directors of the company or submit letters with issues they would like the company to address. In most instances, engagement and resolutions go hand in hand, with resolutions being used to raise an issue and open a door for direct communication with the company⁵⁸. Therefore, there is a positive correlation between resolutions being submitted and engagement happening ‘behind closed doors’.

Much of the information covered in this dissertation is very recent. Therefore, there is a lack of peer-reviewed literature, particularly on the topic of fossil fuel divestment and unburnable carbon. Nonetheless, a substantial number of reports and studies have been released by financial institutions, advocacy groups, NGOs, etc. These were important secondary sources of information throughout. Regular attendance of meetings, closed investors’ roundtables, and report launches as part of my daily job was an integral element of the research effort around divestment and engagement.

Finally, this dissertation is based on a qualitative approach to research. It is ultimately a study of shareholders, who are individuals with perceptions, values and motivations. Behavioural finance – representing an interdisciplinary merger of cognitive psychology and finance – provides the fundamental theoretical framework for this

⁵⁸ Bloomberg (25 February 2013) Investors Demand Climate-Risk Disclosure in 2013 Proxies. *Bloomberg*. Available at [<http://www.bloomberg.com/news/2013-02-25/investors-demand-climate-risk-disclosure-in-2013-proxies.html>]

dissertation. This theory challenges the sense that market prices reflect fundamental market characteristics – the efficient market hypothesis – and that investors always behave rationally⁵⁹. In fact, I will argue that many of the reasons as to why capital continues to flow to high-carbon projects lie in the (not so rational) way that investors behave and perceive climate risks.

⁵⁹ JONHNSSON, M., LINDBLOM, H. & PLATAN, P. (January 2002) Behavioural Finance – And the Change of Investor Behavior during the and After the Speculative Bubble at the End of the 1990s. *Lund University: Master's Thesis in Finance Faculty of Business Administration*. Available at [http://www.meta-formula.com/support-files/article_johnssonm_behaviouralfinance90s.pdf]

4. Analysis & Discussion

4.1 Active shareholders and fossil fuel companies: resolutions, engagement, and divestment

The interesting aspect about the current shareholder activism on climate change, particularly in the fossil fuel sector, is that two opposing movements seem to be happening at the same time:

1. The first is represented by an increased number of shareholders filing resolutions and engaging with leading companies, who are in turn being more open to work cooperatively with shareholder advocates.

2. The second is represented by the growth of a movement that suggests that shareholders should divest from fossil fuel assets on the grounds of morality and portfolio resilience. There are two main forces behind that:
 - i. A global network movement led by the not-for-profit 350.org calling “institutions to immediately freeze any new investment in fossil fuel companies, and divest from direct ownership and any commingled funds that include fossil fuel public equities and corporate bonds within five years”⁶⁰. With a motto “it’s wrong to profit from wrecking the climate”⁶¹, the Go Fossil Free campaign is sparking an

⁶⁰ Fossil Free (2013) About – Fossil Free. Fossil Free, 2013. Available at: [<http://gofossilfree.org/about/>].

⁶¹ Ibid.

international movement with over 300 educational institutions and 100 city and state governments starting locally-organised campaigns pushing for fossil fuel divestment. According to Bill McKibben, the founder of 350.org, the main objective of the movement is to “spark a transformative challenge to fossil fuel ... [by] moral outrage...”⁶².

- ii. A new body of research on the risk of fossil fuel assets becoming stranded as the shift to a low-carbon economy accelerates. Seminal research by the London-based NGO Carbon Tracker and the Grantham Research Institute has revealed that, if world governments take action and adopt regulation to meet a global carbon budget for the world to stay below 2°C of warming “then up to 80 per cent of declared reserves owned by the top 200 listed coal, oil, and gas companies and their investors would be subject to impairment as these assets become stranded”⁶³.

Regarding the first, the rising number of shareholder resolutions focusing on climate change and environmental issues filed at extractive companies – mainly oil, gas, and coal – is noteworthy. So is the extent to which direct engagement with companies has increased, whether from socially responsible investors or more mainstream investors. After filing a resolution, a number of conversations are held between resolution filers

⁶² MCKIBBEN, B. (19 July 2012) Global Warming’s Terrifying New Math. *Rollingstone.com*, Available at: [<http://www.rollingstone.com/politics/news/global-warmings-terrifying-new-math-20120719>].

⁶³ Carbon Tracker (2011) Unburnable Carbon – Are the World’s Financial Markets Carrying a Carbon Bubble? *Carbon Tracker*. Available at [<http://www.carbontracker.org/wp-content/uploads/downloads/2012/08/Unburnable-Carbon-Full1.pdf>]

and other shareholders to gather support for the cause, and between investors and the company⁶⁴. In many instances, shareholders withdraw resolutions from the ballot if they hold dialogue meetings with firm managers who then agree to take action on the issue outlined in the resolution⁶⁵.

According to the Ceres' database, a total of 100 climate change-related resolutions have been filed specifically at oil and gas companies since 2011, including 15 in the coming 2014 voting season⁶⁶. In addition to targeting household names such as Exxon and Chevron, shareholders have broadened their concern to smaller, independent exploration and production companies, such as Newfield and Range Resources. These companies, which only drill for and produce oil and gas and are not diversified with distribution or retail operations, are potentially more vulnerable to regulatory or market-based limits on GHG emissions worldwide⁶⁷. Filers of the resolutions include some of the largest public pension funds in the US such as the California State Teachers Retirement System (CalSTRS) and the New York City Comptrollers' Offices, as well as religious and socially responsible investors such as Green Century Capital Management and Trillium Asset Management⁶⁸.

The resolution approach has led to some positive results. For instance, in the 2013 voting season, shareholders decided to withdraw resolutions from Cabot Oil & Gas,

⁶⁴ ShareAction (undated) A Guide to Shareholder Resolutions in the UK. *ShareAction*. Available at [http://www.shareaction.org/sites/default/files/uploaded_files/whatyoucando/ShareholderResolutionGuide.pdf]

⁶⁵ Ibid.

⁶⁶ Ceres (2013) Shareholder Resolutions. *Ceres*, 2013. Available at: [<http://www.ceres.org/investor-network/resolutions>].

⁶⁷ Ibid.

⁶⁸ Ibid.

Cameron International Corporation, Denbury Resources, EOG Resources, and Range Resources Corporation after these companies engaged in dialogue and agreed to specific requests⁶⁹. These included issuing sustainability reports, curtailing toxicity of fracking fluids, ensuring Board oversight of environmental and social matters, and reporting on impacts of hydraulic fracturing operations⁷⁰. Active ownership practices are also seen as one of the main forces behind ExxonMobil's decision to cut back on its donations to climate change denial groups and come out publicly in favour of a carbon tax over the past few years⁷¹.

Moreover, a resolution submitted by a large coalition of investors and NGOs at Shell's 2010 AGM led to sustained conversations with management and subsequent disclosures about the environmental, social and financial risks associated with tar sands operations⁷². In the voting process, 11% of shareholders refused to back management's recommendation to oppose the resolution, which is considered a significant result for a resolution focused on environmental and social risk⁷³. While the voting support number may seem low compared to other shareholder-sponsored proposals (e.g., Board-focused proposals averaged more than 50% in 2011), it shows the growing support of institutional investors, who have historically voted "against" or "abstain" on environmental and social proposals⁷⁴. The example of Shell and tar sands shows that, even if not receiving a majority vote, shareholder resolutions can

⁶⁹ Ibid.

⁷⁰ Ibid.

⁷¹ SIROTA, D. (2008) *The Uprising: An Unauthorized Tour of the Populist Revolt Scaring Wall Street and Washington*. Tantor Media.

⁷² ShareAction (2013) 11% of shareholders rebel or abstain on tar sands. *ShareAction*, 2013. Available at: [<http://www.shareaction.org/tarsands/Shell>]

⁷³ Ibid.

⁷⁴ Ibid.

still prompt companies to take action to avoid risk to their reputation or address investors' concerns⁷⁵.

At the same time, the growing urgency to act upon climate change has contributed to the rise of a movement to persuade financial groups to divest shareholdings in fossil fuel firms. Although still limited in terms of actual results, the divestment campaign is quickly gaining pace and attracting huge media attention worldwide. Since the campaign inception in 2010, a total of 7 colleges and universities have committed to divest, along with 21 cities, 2 counties, 19 religious institutions (including 7 in Australia and New Zealand), 3 foundations and 6 other institutions.⁷⁶ These include the UK Quakers, the United Church of Christ in the U.S., and major cities like Seattle and San Francisco. More importantly, the movement has encouraged students to launch local campaigns, with approximately 400 petitions for divestment in place at U.S. universities and dozens more across the world, including some of the most notorious schools with large endowments such as Yale, Cambridge, and Oxford⁷⁷.

The divestment movement has a strong moral argument attached to it. Bill McKibben, the main face behind the campaign, believes that “climate change [...] is, at bottom, a

⁷⁵ Bloomberg (25 February 2013) Investors Demand Climate-Risk Disclosure in 2013 Proxies. *Bloomberg*. Available at [<http://www.bloomberg.com/news/2013-02-25/investors-demand-climate-risk-disclosure-in-2013-proxies.html>]

⁷⁶ Fossil Free (2013) Commitments – Fossil Free. Fossil Free, 2013. Available at: [[http://gofossilfree.org/commitments/.](http://gofossilfree.org/commitments/)].

⁷⁷ Fossil Free (2013) Campaigns – Fossil Free. *Fossil Free*, 2013. Available at: [<http://campaigns.gofossilfree.org/>]

moral issue; we have met the enemy and they is Shell"⁷⁸, in reference to the multinational energy corporation. He also believes that “pure self-interest probably won't spark a transformative challenge to fossil fuel. But moral outrage just might”⁷⁹.

However, the real strength behind the fossil fuel divestment movement, and what makes it different from previous divestment campaigns such as tobacco, ammunitions and corporations in apartheid South Africa, is that it is also being underpinned by a strong financial argument. As Carbon Tracker has argued, concerted regulatory action to meet globally agreed limits of 2°C could render up to 80% of the world's known reserves of fossil fuels ‘unburnable’, resulting in sharp falls to fossil fuel companies’ valuations. Equity portfolios are particularly exposed to these risks, as the FTSE 100, S&P 500 and other global indices have relatively high proportions of their market capitalisation in carbon intensive stocks⁸⁰. A market shock, as we have seen in the recent past with the US housing bubble, could trigger economic and social problems across the world.

In July 2013, Storebrand, a Norwegian pension fund stated that it was pulling out of the investments in 13 coal and 6 oil sands companies to ensure “long-term stable returns” because the bank believes these stocks will be “financially worthless” in the

⁷⁸ MCKIBBEN, B. (19 July 2012) Global Warming's Terrifying New Math. *Rollingstone.com*, Available at: [<http://www.rollingstone.com/politics/news/global-warmings-terrifying-new-math-20120719>].

⁷⁹ Ibid.

⁸⁰ Carbon Tracker (2011) Unburnable Carbon – Are the World's Financial Markets Carrying a Carbon Bubble? *Carbon Tracker*. Available at [<http://www.carbontracker.org/wp-content/uploads/downloads/2011/07/Unburnable-Carbon-Full-rev2.pdf>]

future⁸¹. This overvaluation of extractives companies – commonly known as the ‘carbon bubble’ – puts investors at risk of the resulting bubble bursting, especially if tighter regulations on carbon emissions are adopted and demand for fossil fuel falls in the transition to a low-carbon economy.

At this point, and before proceeding further in analysing the strengths and limitations to shareholder activism in the energy sector, the reader would benefit from a more detailed explanation of the ‘unburnable carbon’ literature and how this can impact shareholder value and risk perception.

4.2 Unburnable carbon: a turning point in climate action?

The concept of unburnable carbon was first coined in 2011 by the London-based NGO Carbon Tracker in partnership with the Grantham Research Institute on Climate Change, part of the London School of Economics⁸². Their groundbreaking study was the first to link the global carbon budget calculated by the Potsdam Institute in 2009, with the amount of carbon that the declared fossil fuel reserves owned by the top 200 coal, oil and gas listed companies would emit if burned. A global carbon budget is the maximum amount of CO₂ that can be emitted in the future, based on scientifically-estimated probabilities of staying below 2°C of global warming. The 2°C limit is seen

⁸¹ Storebrand Press Release (2 July 2013) *Storebrand reduces carbon exposure in investments – 19 companies excluded*. Available at

[<http://www.storebrand.no/site/stb.nsf/Pages/newsdesk.html#/news/storebrand-reduces-carbon-exposure-in-investments-19-companies-excluded-62954>]

⁸² Carbon Tracker (2011) *Unburnable Carbon – Are the World’s Financial Markets Carrying a Carbon Bubble?* *Carbon Tracker*. Available at [<http://www.carbontracker.org/wp-content/uploads/downloads/2011/07/Unburnable-Carbon-Full-rev2.pdf>]

as a threshold for dangerous changes including more droughts, extinctions, floods and rising seas that could swamp coastal regions and island nations. Over 200 governments anchored their intention to try to limit global warming to below 2°C (based on pre-industrial times) in the 2010 United Nations' Cancun Agreements.

The Carbon Tracker study concluded that if all listed fossil fuel reserves held by the top 200 listed fossil fuel companies were burnt until 2050, their equivalent CO₂ emissions when combusted would take the world way beyond the safe point of 2°C of warming⁸³. Approximately 80% of all declared reserves would have to stay in the ground if humans are serious about tackling climate change. A similar conclusion was later reached by the IEA which has been integrating climate change policy scenarios into its thinking in recent years. In its 2012 World Energy Outlook, it noted that, based upon a carbon budget representing a 50% chance of staying below 2°C, no more than one-third of proven reserves of fossil fuels can be consumed unmitigated prior to 2050⁸⁴.

Carbon Tracker's work has gained huge traction within the mainstream financial community and has been developed further by a number of financial institutions and rating agencies. In January 2013, HSBC released a study estimating that European oil and gas majors, including BP, Shell, Total and Statoil, could face a loss in market

⁸³ This calculation, the authors warn, is conservative as it assumes that no new fossil fuel resources are added to reserves and burnt until 2050. It also does not include unconventional gas deposits, such as shale gas, which have a higher carbon factor than traditional gas. In addition, over two-thirds of the world's fossil fuels are held by privately or state owned oil, gas and coal corporations, which are also contributing even more carbon emissions.

⁸⁴ International Energy Agency. 2012 World Energy Outlook. *International Energy Agency*.

value of up to 60% if oil prices (net of any carbon tax or cost of pollution permits) were to drop to USD 50/barrel in response to lower demand⁸⁵.

In March 2013, the Canadian Centre for Policy Alternatives (CCPA) calculated that 78% of Canada's proven reserves would have to stay in the ground to meet a low-carbon objective⁸⁶. CCPA stated that "by not accounting for climate risk, large amounts of invested capital are vulnerable to the carbon bubble", and with one-third of the CAD\$1.1 trillion in trustee funds invested in stocks, "pension funds and other institutional investors need to be part of the solution."⁸⁷

Major oil and gas companies are allocating increasing amounts of shareholder capital to high-cost, long-term exploration and extraction projects. In 2012, the 200 largest listed oil, gas and coal companies spent five times as much - USD674 billion - on finding and extracting new reserves as they did on returning money to shareholders - USD126 billion⁸⁸. The USD674 billion also dwarfs the USD281 billion in total global

⁸⁵ SPEDDING, P., MEHTA, K. & ROBBINS, N. (25 January 2013) Oil & Carbon Revisited – Value at Risk from 'Unburnable' Reserves. *HSBC Climate Change Global Research* (25 January 2013).

Available at: [<http://gofossilfree.org/files/2013/02/HSBCOilJan13.pdf>]

⁸⁶ LEE, M. & ELLIS, B. (March 2013) Canada's Carbon Liabilities – The Implications of Stranded Assets for Financial Markets and Pension Funds. *Canadian Centre for Policy Alternatives*. Available at:

[<http://www.policyalternatives.ca/sites/default/files/uploads/publications/National%20Office,%20BC%20Office/2013/03/Canadas%20Carbon%20Liabilities.pdf>]

⁸⁷ Ibid.

⁸⁸ The Economist (4 May 2013) Unburnable Fuel. *The Economist*. Available at:

[<http://www.economist.com/news/business/21577097-either-governments-are-not-serious-about-climate-change-or-fossil-fuel-firms-are>]

investment in clean energy in 2012⁸⁹. This reflects an assumption that sustained high prices and continued high demand will justify production costs. Yet, these are unlikely to hold as indicated by the Carbon Tracker research.

The ‘unburnable carbon’ literature suggests that markets are mispricing risk by valuing companies as if all their reserves will be fully exploited, when it is increasingly likely that there will be limitations on carbon emissions and many reserves will never be extracted. Companies such as Shell, BP and BHB Billiton report emissions associated with their annual production level but have never disclosed a forward-looking dimension of future GHG emissions based on currently known reserves. By investing in fossil fuel companies that continue to allocate resources to new exploration and extraction projects, investors are exposing themselves to the risk of ‘asset stranding’ in oil and gas companies’ project line-up. These investors could soon find that company balance sheets hold large numbers of ‘stranded assets’⁹⁰ with no commercial potential, posing financial risks to investment portfolios and the economic system as a whole.

Traditionally, assets become stranded due to an unexpected change in their market environment that changes the way we value assets. These can be triggered by

⁸⁹ Bloomberg (14 October 2013) World Clean Energy Investment Heads for Second Successive Annual Fall. *Bloomberg*. Available at: [<http://about.bnef.com/press-releases/world-clean-energy-investment-heads-for-second-successive-annual-fall/>]

⁹⁰ The newly established stranded assets programme at the University of Oxford Smith School of Enterprise and the Environment (SSEE) explains on its website that stranded assets are assets that are devalued, converted to liabilities or written off unexpectedly or prematurely, posing financial risks to investment portfolios and the economic system as a whole. These risks are poorly understood and are regularly mispriced, which has resulted in a significant over-exposure to environmentally unsustainable assets throughout our financial and economic systems. More information available at: [<http://www.smithschool.ox.ac.uk/research/stranded-assets/>]

different factors including, among others, new government regulations (e.g. carbon pricing, air pollution regulation), evolving social norms and consumer behaviour (e.g. fossil fuel divestment, certification schemes), and physical environmental challenges (e.g. water constraints, impacts on infrastructure caused by extreme weather events)⁹¹.

There are already some significant examples of how stranded assets have been caused by environment-related risks, with impacts on investors' returns. For instance, following the Fukushima disaster in Japan and a wave of public opposition to nuclear power, Chancellor Angela Merkel brought forward a final phase-out of all 17 nuclear power plants from 2036 to 2022. The four biggest suppliers in the market - E.ON, EnBW, RWE, and Vattenfall - are now filing legal complaints against the German government and claiming compensations for lost revenues and now-redundant investments, which have a direct impact on shareholder wealth. E.ON believes the lost revenues and investments in security equipment and nuclear fuel amounts to EUR8 billion, while RWE calculates damages of EUR2 billion alone for its two reactor blocks at Biblis, central Germany⁹².

The same German utilities have also announced plans to close a significant number of fossil fuel-power plants after been hit by a mix of record-low wholesale power prices (down by about 15% on average since the beginning of the year), weak demand driven by recession in Europe, and a state-backed expansion of renewables that has

⁹¹ University of Oxford Smith School of Enterprise and the Environment (SSEE). More information available at: [<http://www.smithschool.ox.ac.uk/research/stranded-assets/>]

⁹² The Local (2 November 2011) Vattenfall to contest nuclear phaseout. *The Local – German News in English*. Available at: [<http://www.thelocal.de/national/20111102-38595.html>]

hurt profitability of conventional gas and coal-fired plants⁹³. Fossil fuel power plants have long life cycles and are therefore highly exposed to the risk of stranding in a carbon-constrained world. RWE, for instance, whose shares have fallen 78% since their January 2008 peak, is closing power plants with a combined capacity of 3.1GW, or around 6% of its total power-generation capacity⁹⁴.

Other examples include the emergence of shale gas stranding coal assets in the U.S. economy and water constraints stranding coal assets in South Asia⁹⁵. These show that such risks could be revealed over meaningful time horizons - in other words, that they could materialise in the short to medium term and are not just very long-term risks that can be currently discarded by shareholders.

In the 2013 voting season, two advocacy groups filed a shareholder resolutions asking two of the largest coal producers in the U.S. - CONSOL Energy and Alpha Natural Resources - to report to investors how much of their coal assets would be left stranded in the ground if GHG regulations were passed⁹⁶. In one of them, shareholders criticise

⁹³ STEITZ, C., (13 August 2013) Germany's E.ON warns of extra plant closures as profit sags. *Reuters*. Available at [<http://uk.reuters.com/article/2013/08/13/uk-eon-results-idUKBRE97C0H720130813>];

SIMPSON, S. (23 August 2013) Can E.On Maintain Its Fat Dividend Through A Difficult Restructuring? *Investopedia* Available at [<http://www.investopedia.com/stock-analysis/082313/can-eon-maintain-its-fat-dividend-through-difficult-restructuring-eongy-etr-duk-bp-cig.aspx>]

⁹⁴ DIMANTCHEV, E. (23 August 2013) Europe's Stranded Assets: Cautionary Tale for Global Investors. *TriplePundit Online*. Available at [<http://www.triplepundit.com/2013/08/europes-stranded-assets-cautionary-tale-global-investors/>]

⁹⁵ CALDECOTT (5 December 2013) Steps to deal with emerging risks of stranded assets. *Pension & Investments Online*. Available at: [<http://www.pionline.com/article/20131205/ONLINE/131209943/steps-to-deal-with-emerging-risks-of-stranded-assets>]

⁹⁶ CONSOL Carbon Bubble Risk 2013. Shareholder resolution filed by As You Sow. Available at: [<http://www.asyousow.org/publications/2013/filings/Consol-resolution-20130203.pdf>]; ALPHA

the limited level of disclosure and express concerns that a portion of “coal and gas reserves and/or related infrastructure may become unusable, unmarketable, or otherwise not economically viable as a result of greenhouse gas restrictions”⁹⁷.

These resolutions reflect a new set of shareholder concern, and provide evidence that the unburnable carbon debate is spreading across the investment community. In many cases, the relative prominence of proposals and proposal topics serves as an early indicator of what may become important issues for a broad base of institutional investors and other stakeholders at a later date⁹⁸. Given the proliferation of studies in the area, both from academia and mainstream financial institutions, this is likely to be the beginning of a much longer and profound discussion in the movement to quantify the risk of stranded fossil fuel assets.

Finally, the unburnable carbon debate is growing at a time when extreme weather events continue to impact businesses and investors across the globe. For instance, the 2011 floods affected over 160 companies in Thailand's textile industry, stopping about a quarter of the country's garment production; electric power company Constellation Energy faced reduced quarterly earnings due to the record-setting 2011 heat wave in Texas that forced it to buy incremental power at peak prices; agribusiness and food company Bunge reported a US\$56 million quarterly loss in its

NATURAL RESOURCES 2013. Shareholder resolution filed by the Unitarian Universalist Association of Congregations. Available at: [<http://www.sec.gov/divisions/corpfin/cf-noaction/14a-8/2013/unitarianuniversalist031913-14a8.pdf>]

⁹⁷ Ibid.

⁹⁸ IRRIC Institute (February 2013). Key Characteristics of Prominent Shareholder-Sponsored Proposals on Environmental and Social Topics, 2005-2011. *IRRIC Institute*. Available at: [<http://irricinstitute.org/pdf/FINAL-Ernst-Report-Feb-2013.pdf>]

sugar and bioenergy segments, driven primarily by droughts in 2010 in its main growing areas; insurance company Munich Re received claims worth over US\$350 million from the 2010-2011 Australian floods, contributing to a 38% quarterly profit decline⁹⁹.

4.3 The fossil fuel divestment campaign

Divestment campaigns are an understudied phenomenon. There is an important but relatively scarce academic literature on the topic, focused primarily on South African apartheid in the 1980s. Other divestment campaigns include alcohol, arms and land mines, gambling and pornography from the 1970s; tobacco, nuclear power utilities and biotech (tissue engineering, genetically modified organisms, animal testing) from the 1980s; and human-rights violations in Sudan from the early 2000s to 2011.

The effectiveness of stock divestment campaigns against firms perceived to violate social norms is still an open empirical question. The sample size of previous campaigns is small (n=9) and data available for some of them is scarce or not available. The most commonly suggested model of the effects of a divestment campaign concentrates on impacts on enterprise value and financial viability of target firms¹⁰⁰. Companies can be affected through lower demand for their shares, and therefore lower share or stock prices. Divestment can also potentially affect the availability and cost of debt to a particular company or sector, affecting the ability to

⁹⁹ CERES (May 2012) *Physical Risks from Climate Change: A guide for companies and investors on disclosure and management of climate impacts*. Available at:

[<http://www.ceres.org/resources/reports/physical-risks-from-climate-change>]

¹⁰⁰ KAEMPFER, W.H., LEHMAN, J.A. & LOWENBERG, A.D. (1987) Divestment, investment sanctions and disinvestment: an evaluation of anti-apartheid policy instruments. *International Organisation* 41, 3.

finance new capital expenditure. Together, these would prompt change in managerial behaviour. This theoretical framework has guided the majority of studies in the area, with mixed empirical evidence.

For instance, the works of Wright & Ferris¹⁰¹ and Meznar et al.¹⁰² found a negative association between withdrawal announcements and stock returns on the day of an announcement for a number of corporations in apartheid South Africa. In a similar study focused on oil companies operating in Sudan, Parwada¹⁰³ finds some evidence of a positive relationship between the intensity of the human-rights motivated divestment campaign and shifts in the ownership breadth of stocks, with hedge funds increasing ownership in the aftermath of institutional investor divestment. The work of Teoh et al.¹⁰⁴, on the other hand, found imperceptible stock price reaction to either legislative or shareholder pressure announcements regarding the boycott of U.S. stocks that invested in South Africa.

The most prominent academic study on the new fossil fuel divestment campaign was published in October 2013 by the Stranded Assets Programme at the University of

¹⁰¹ WRIGHT, P. & FERRIS, S. (1997) Agency conflict and corporate strategy: the effect of divestment on corporate value. *Strategic Management Journal*, 18: 77-83.

¹⁰² MEZNAR, M., NIGH, D., & KWOK, C. (1998). Announcements of withdrawal from South Africa revisited: Making sense of contradictory event study findings. *Academy of Management Journal*, 41(6), 715-730.

¹⁰³ PARWADA, J.T. (November 2013). Global Development Finance Conference, *When does a Stock Boycott Work? Evidence from a Clinical Study of the Sudan Divestment Campaign*, Cape Town, South Africa, November 2012.

¹⁰⁴ TEOH, S., WELCH, I. & WAZZAN, C. (1999) The Effect of Socially Activist Investment Policies on the Financial Markets: Evidence from the South African Boycott. *Journal of Business*, 72: 35-89.

Oxford's Smith School of Enterprise and the Environment¹⁰⁵. Building on recent empirical efforts, the study articulates a new theoretical framework to evaluate and predict, albeit imperfectly, the direct and indirect impacts of a divestment campaign.

The study concludes that the impacts of the fossil fuel divestment campaign are likely to be small when analysed through the lens of mainstream finance (e.g. impacts on share prices, availability and cost of debt)¹⁰⁶. The study presents some reasons for that. First, if investors see no reason to revise future cash flows downwards, the depressed share price will revert up towards its intrinsic value over medium to longer time horizons¹⁰⁷. This may change if regulation limiting GHG emissions is enacted and the unburnable carbon scenario materialises¹⁰⁸. Until then, however, divested holdings from socially motivated investors are likely to find their way quickly to neutral investors since oil and gas stocks are some of the world's most liquid public equities¹⁰⁹.

Second, even if a divestment campaign were successful in convincing large banks to withdraw further debt finance, theory in mainstream finance suggests that fossil fuel companies would be able to substitute existing banks, if these were to stop lending, with other sources of finance - such as corporate bonds or neutral banks¹¹⁰. Fossil fuel companies would likely forgo the undertaking of higher-risk projects, such as

¹⁰⁵ ANSAR, A., CALDECOTT, B. & TILBURY, J. (2013) Stranded assets and the fossil fuel divestment campaign: what does divestment mean for the valuation of fossil fuel assets? *Smith School of Enterprise and the Environment*, University of Oxford. Available at: [<http://www.smithschool.ox.ac.uk/research/stranded-assets/SAP-divestment-report-final.pdf>]

¹⁰⁶ Ibid.

¹⁰⁷ Ibid.

¹⁰⁸ Ibid.

¹⁰⁹ Ibid.

¹¹⁰ Ibid.

complex offshore or shale gas¹¹¹. Yet, the intrinsic value of fossil fuel companies would remain largely unchanged and business would continue as usual¹¹².

Third, the divestment movement is growing primarily within universities, with a strong base of student support. However, college and university endowments represent less than 1% of total global invested assets – about USD1 trillion of USD150 trillion total invested assets¹¹³. Retirement, pension, superannuation and sovereign wealth funds hold considerably more money but it remains to be seen whether these groups will feel compelled to divest. Fourth, the proven reserves of the top 10 oil and gas listed companies, although huge, are still way smaller than the reserves held by unlisted giants such as Saudi Aramco and Iran's NIOC, on which the divestment campaign has no influence¹¹⁴.

However, on a positive note, the study finds that the fossil fuel divestment campaign is likely to lead to a change in market norms that could potentially close off channels of previously available money¹¹⁵. For instance, more negative screens or passive funds that exclude fossil fuel companies are likely to emerge. Some banks, multilateral institutions such as the World Bank in particular, may stop lending to fossil fuel companies, putting marginal projects at risk in less liquid fossil fuel

¹¹¹ Ibid.

¹¹² Ibid.

¹¹³ Ibid.

¹¹⁴ The Economist (29 October 2011) Big Oil's Bigger Brothers. *The Economist*. Available at: [http://www.economist.com/node/21534794]

¹¹⁵ ANSAR, A., CALDECOTT, B. & TILBURY, J. (2013) Stranded assets and the fossil fuel divestment campaign: what does divestment mean for the valuation of fossil fuel assets? *Smith School of Enterprise and the Environment*, University of Oxford. Available at: [http://www.smithschool.ox.ac.uk/research/stranded-assets/SAP-divestment-report-final.pdf]

industries such as coal or peripheral geographies¹¹⁶. In South African apartheid, for instance, Knight finds evidence that U.S. banks – either due to social pressure or concerns about uncertainty in the South African economy due to the apartheid regime’s tainted image – began denying loans to companies operating in the country and to the South African government itself¹¹⁷.

In the last few months, the fossil fuel divestment movement gained strength in this area. The European Union Climate Commissioner Connie Hedegaard has recently lent her voice to the divestment campaign with a call for three financial institutions – the European Investment Bank, the European Bank for Reconstruction and Development, and the World Bank – to lead by example and stop financing fossil fuel projects¹¹⁸. The Board of Directors of the European Investment Bank agreed in July 2013 to adopt an emissions performance standard for energy projects that screens out certain coal power plants¹¹⁹. According to the bank, these undermine the EU's climate change policies, including its target to cut emissions 80% by 2050¹²⁰. Also in July, Holland-based Rabobank announced that it will no longer lend money to unconventional

¹¹⁶ Ibid.

¹¹⁷ KNIGHT, R. (1990) *Sanctions, Disinvestment, and U.S. Corporations in South Africa*. Trenton, Africa World Press. Electronic version. Available at: [http://richardknight.homestead.com/files/uscorporations.htm]

¹¹⁸ CEE Bankwatch Network & SEE Change Net (June 2013) *Invest in Haste, Repent at Leisure – Are IFIs behaving as if EU accession criteria and extreme energy losses do not exist in South East Europe? CEE Bankwatch Network & SEE Change Net*. Available at: [http://seechangenetwork.org/images/publications/invest%20in%20haste%20repent%20at%20leisure.pdf]

¹¹⁹ SHANKLEMAN, J. (24 July 2013) *European Investment Bank halts lending to dirtiest coal power plants*. *Business Green*. Available at: [http://www.businessgreen.com/bg/news/2284479/european-investment-bank-halts-lending-to-dirtiest-coal-power-plants]

¹²⁰ Ibid.

energy projects, such as oil sands and shale gas, due to the financial and environmental risks associated with projects of this nature¹²¹.

The main conclusion from the Smith School study is that the real power of the divestment movement comes through indirect effects on fossil fuel companies emerging from increased uncertainty and the process of stigmatization. An organisational stigma is a label that evokes a collective perception from a social audience that a target organisation “possesses a fundamental, deep-seated flaw that deindividuates and discredits the organisation”¹²². Conduct stigmas can be rooted in flawed internal corporate conduct (e.g. Google’s tax avoidance in the UK in contrast to its motto “don’t be evil”) or in external changes in social norms (e.g. McDonald’s fast-food business model being publically “vilified” in light of the recent anti-obesity campaigns).¹²³ Similarly, increased public concerns about climate change can stigmatize fossil-fuel companies even if their internal corporate conduct remains unchanged.

Stigma can produce many undesirable consequences for organisations and scare away consumers, suppliers, subcontractors and employees. In some cases, shareholders have demanded changes in management or composition of the Board of Directors of

¹²¹ Euractiv (9 July 2013) Rabobank, Storebrand boost fossil fuels divestment camp. *EurActiv*.

Available at: [<http://www.euractiv.com/energy/rabobank-storebrand-boost-fossil-news-529155>]

¹²² DEVERS, C. E. et al. General Theory of Organizational Stigma. *Organization Science* 20, no. 1 (2009): 154–171. <http://orgsci.journal.informs.org/content/20/1/154.short>.

¹²³ VERGNE, J.P. (2012) Stigmatised Categories and Public Disapproval of Organisations: A Mixed-Methods Study of the Global Arms Industry, 1996-2007. *Academy of Management Journal* 55, no.5 (2012): 1027-1052.

stigmatised companies, such as Exxon's appointment of an environmentalist to its Board following the Valdez oil spill in 1989¹²⁴.

More importantly, the stigmatisation process has a strong lobbying aspect to it which can be very effective in leading to restrictive legislation¹²⁵. For instance, calls for divestment of tobacco stocks reinforced the stigmatisation of the tobacco industry, which led to several rounds of restrictive legislation beginning with the 1969 Public Health Cigarettes Smoking Act, followed by taxes and multi-billion settlements¹²⁶.

The divestment movement is notably about shifting perceptions. In a paper by Lenferna¹²⁷ on the ethics and economics of fossil fuel divestment, we are reminded that financial markets and market bubbles operate in ways that are not based solely on rationality and information, but mainly on cognitive aspects such as perception, psychology, emotion and fear. Numerous studies support this view, particularly in times of uncertainty¹²⁸. If divestment campaigners are able to shift expectations during the stigmatisation process, and increase the perception that the government might legislate to levy a carbon tax or adopt stricter GHG emission targets that would

¹²⁴ ANSAR, A., CALDECOTT, B. & TILBURY, J. (2013) Stranded assets and the fossil fuel divestment campaign: what does divestment mean for the valuation of fossil fuel assets? *Smith School of Enterprise and the Environment*, University of Oxford. Available at: [<http://www.smithschool.ox.ac.uk/research/stranded-assets/SAP-divestment-report-final.pdf>]

¹²⁵ Ibid.

¹²⁶ Ibid.

¹²⁷ LENFERNA, A. (2013) *Betting on Climate Failure – The Ethics and Economics of Fossil Fuel Divestment*. University of Kansas Philosophy Department.

¹²⁸ ACKERT, L., CHURCH, B. & DEAVES, R. (2003) Emotion and financial markets. *Economic Review – Federal Reserve*, 33-41; BAKER, M. & WURGLER, J. (2007) Investor sentiment in the stock market. *Journal of Economic Perspectives*, 21(2), 129-152; LERNER, J.S., SMALL, D.A. & LOEWENSTEIN, G. (2004) Heart strings and purse strings: Carryover effects of emotions on economic decisions. *Psychological Science*, 15(5), 337-41. Doi:10.1111/j.0956-7976.2004.00679.x

necessarily depress demand, the uncertainty surrounding the future cash flows of fossil fuel companies will increase. According to the Smith School study, this will indirectly influence all investors – those considering divestment for moral reasons and those neutral – to hold less fossil fuel stocks in their portfolios, or restrict lending to fossil fuel companies¹²⁹.

On a broader level, the divestment movement helps to raise awareness of climate change and sends a message to the UNFCCC and governments around the world that the shift to a low carbon economy is happening, and that young generations of university students are backing this change with enthusiasm. It also provides a platform to delegitimise the power of fossil fuel industries, which spent US\$1.61 billion on lobbying Congress in 2013 in the U.S. alone, with many companies hiring specialised lobbying firms¹³⁰.

In summary, the literature on divestment campaigns, albeit scarce, suggests that, even though direct impacts on equity or debt are likely to be limited, the biggest implications for market participants will come indirectly from the process of stigmatisation. Organisational stigma brings legislative uncertainty and can be effective in leading to restrictive legislation that will discourage further exploration

¹²⁹ ANSAR, A., CALDECOTT, B. & TILBURY, J. (2013) Stranded assets and the fossil fuel divestment campaign: what does divestment mean for the valuation of fossil fuel assets? *Smith School of Enterprise and the Environment*, University of Oxford. Available at:

[<http://www.smithschool.ox.ac.uk/research/stranded-assets/SAP-divestment-report-final.pdf>]

¹³⁰ BURKE, T. (2013) Future Imperfect: The Collision of Climate and Carbon. *Montrose Strategic Intelligence and Advice Journal*. Summer 2013 Available at

[<http://www.montroseassociates.biz/article.asp?aid=84>]; ShareAction (2013) The Green Light Report – Resilient portfolios in an uncertain world. *ShareAction*. Available at:

[http://www.shareaction.org/sites/default/files/uploaded_files/investorresources/Green-Light-Report-web.pdf]

and extraction of fossil fuels, either directly via bans on further drilling, or indirectly via a carbon price, carbon tax, etc.. Moreover, stigmatisation can diminish the lobbying power of carbon intensive industries and change investors' probabilities of future outcomes. In addition, the divestment campaign can lead to changes in market norms and debt financing, with negative consequences primarily to less liquid, high-polluting industries such as coal. In broader terms, the divestment movement is highlighting the concerns of younger generations around climate change and exerting pressure on governments and intergovernmental channels of negotiations. Altogether, these multiple impacts might be successful in putting pressure on fossil fuel companies to embark on a process of 'transformative change' and invest in less-carbon intensive forms of energy supply. The tobacco industry, for instance, did not cease to exist as a result of the divestment campaign, but was forced to diversify and expand into new product markets such as smokeless electric cigarettes.

4.4 The case for stewardship: to divest or not to divest?

The debate on shareholder activism on climate change continues to be polarised between engagement and resolutions on one side, and divestment on the other. However, when tackling climate change – a particularly sinister form of the 'tragedy of the commons' where individuals neglect societal well-being in the pursuit of personal gain – a "polycentric approach" is the most effective way forward¹³¹. In fact, I would argue that the three approaches – engagement, resolutions, and divestment –

¹³¹ OSTROM, E. (2010). Polycentric systems for coping with collective action and global environmental change. *Global Environmental Change*, 20(4), 550–557.
doi:10.1016/j.gloenvcha.2010.07.004

each with its strengths and limitations, complement and reinforce each other and should not be framed in opposition.

The previous session has shown that divestment as a shareholder strategy can be an effective way to incite positive change at the corporate and policy levels, particularly if a process of stigmatisation is triggered. To some investors, however, divestment is a missed opportunity for constructive engagement as it entails giving up the shareholder power to influence companies. According to this view, resolutions and direct engagement are a more effective way for an institution to use its shareholding power to influence the fossil fuel industry.

In support of this view, Harvard's president Drew Faust issued a statement in early October 2013 announcing the university's decision to reject divestment and continue buying into the fossil fuel industry through its USD32.7 billion investment fund¹³². Whilst recognising the concern and commitment of students, she is worried that divestment "would diminish the influence or voice we might have with the [fossil fuel] industry"¹³³. The statement also specified that, as shareholders, "we should favour engagement over withdrawal. In the case of fossil fuel companies, we should think about how we might use our voice not to ostracise such companies but to encourage them to be a positive force both in meeting society's long-term energy needs while addressing pressing environmental imperatives"¹³⁴. Drew Faust also considered divestment inconsistent, given the world's current dependence on fossil

¹³² Harvard University (3 October 2013) Fossil Fuel Divestment Statement. *Office of the President, Harvard University*. Available at: [<http://www.harvard.edu/president/fossil-fuels>]

¹³³ Ibid.

¹³⁴ Ibid.

fuels, particularly oil and natural gas, for much of what we do every day, including heating and lighting buildings, fuelling transportation, and running appliances¹³⁵.

The key shortcoming in Drew Faust's statement is the lack of recognition of climate risks and a simplistic understanding of divestment as an 'ethical' or 'extra-financial' issue only: "We should also be clear-sighted about the risks that divestment could pose to the endowment's capacity to propel our important research and teaching mission. Significantly constraining investment options risks significantly constraining investment returns"¹³⁶. Her statement contradicts the growing body of research on the financial risks that carbon-heavy portfolios pose to investors, and on the physical risks that unmitigated climate change (e.g. increased weather variability) poses to operations of fossil fuel companies.

Confusion around fiduciary duty acts as a barrier to addressing climate risks as there remains a lingering sense that climate change is a purely ethical or moral issue, detached from any financial consideration, and that such an issue should not be considered by fiduciary investors. In the UK, a legal review of fiduciary duty is currently underway by the Law Commission, with a consultation open until the end of January 2014. Proponents of the review argue that fiduciary duty is often wrongly approached as a narrow duty to maximise returns¹³⁷. Returns are often focused on short-term share prices and dividends, rather than encompassing systemic factors and

¹³⁵ Ibid.

¹³⁶ Ibid.

¹³⁷ ShareAction (2011) Protecting Our Best Interests – Rediscovering Fiduciary Obligation.

ShareAction. Available at:

[<http://www.nuffieldfoundation.org/sites/default/files/files/FPProtectingOurBestInterests%281%29.pdf>

]

underlying economic fundamentals that influence long-term outcomes for pension savers, such as climate change¹³⁸.

The growing understanding of climate change risks as material to financial returns is helping shift the debate on stewardship and fiduciary duty. Carbon intensive portfolios can have serious implications for beneficiaries' social and financial best interests. These risks need to be understood and managed by fiduciary investors, who are stewards of the assets entrusted to them by beneficiaries. Waitzer & Sarro have written about "the growing recognition that risk management for pension funds extends well beyond that which is captured by market benchmarks, extending to market integrity, systemic risks, governance risks, advisor risks and the like"¹³⁹. The authors remind us that events of the last decade, including corporate governance scandals and the financial crisis, have challenged the efficient market hypothesis as the basis for prudent investment and risk management practices, and that fiduciary investors are increasingly expected to consider questions of future value, rather than simply market price¹⁴⁰.

Similarly, Youngdahl criticises the "blind adherence to modern portfolio theory [which] no longer appears to be sufficient in fulfilling a trustee's true investment duties to beneficiaries in the real world [...] current conceptions of fiduciary duty

¹³⁸ The Guardian (1 July 2013) Pension funds and climate change: can't act, won't act. *The Guardian*. Available at: [<http://www.theguardian.com/sustainable-business/pension-funds-climate-change-inaction>]

¹³⁹ WAITZER, E.J. & SARRO, D. (2012) The Public Fiduciary: Emerging Themes in Canadian Fiduciary Law for Pension Trustees. *Canadian Bar Review*, Vol. 91, No. 1, pp. 163-209, 2012

¹⁴⁰ Ibid.

need to reflect this reality”¹⁴¹. Johnson & de Graaf emphasise the need to balance short-term and long-term obligations and confirm the importance of systemic and extra-financial risks that could affect the short or long-term well-being of beneficiaries¹⁴². The seminal UNEP-FI Freshfields report states that “while there continues to be a debate about the exact parameters of the duty, there appears to be a consensus that [...] ESG considerations can (and, where they affect estimates of value, risk and return, should) form part of the investment decision-making process”¹⁴³. Moreover, “it is not a breach of fiduciary duties per se to have regard to ESG [environmental, social and governance] considerations while pursuing the purposes of the trust. Rather, in our opinion, it may be a breach of fiduciary duties to fail to take account of ESG considerations that are relevant and to give them appropriate weight”¹⁴⁴.

Shareholder activism needs to be understood in this context. The fiduciary duty of pension funds, university endowments and other institutional investors needs to adapt to the reality that climate change is both an ethical and financial issue, with material implications to investors. Harvard’s statement fails to recognise that carbon exposure can potentially compromise the endowment’s capacity to continue funding high-level research and education. The university’s preference for engagement over divestment

¹⁴¹ YOUNGDAHL, J. (2012) The time has come for a sustainable theory of fiduciary duty in investment. *Hofstra Labor & Employment Law Journal*. Vol. 29:115.

¹⁴² JOHNSON, K.L. & DE GRAAF, F.J. (February 2009) Modernizing Pension Fund Legal Standards for the 21st Century. *Network for Sustainable Financial Markets: Consultation Paper No. 2*.

¹⁴³ UNEP-FI (October 2005) A legal framework for the integration of environmental, social and governance issues into institutional investment. Produced for the Asset Management Working Group of the UNEP Finance Initiative. UNEP-FI. Available at:

[http://www.unepfi.org/fileadmin/documents/freshfields_legal_resp_20051123.pdf]

¹⁴⁴ Ibid.

can be effective in encouraging corporate change if their voice as shareholders is used to seriously challenge fossil fuel companies to address climate risks and invest in less-carbon intensive technologies. Student pressure on the administration is likely to encourage a more determined engagement tactic, with more frequent dialogues with companies and purposeful requests.

However, engaging in dialogue and filing resolutions, although important to encourage companies to take action, can be insufficient to prompt the energy transformation at the scale and scope required to tackle climate change. With one of the highest overall emissions of all sectors – responsible for 28.3% of total reported Global 500 scope 1 and 2 emissions¹⁴⁵ – efforts to reduce emissions in the energy sector are essential. The new reality that the concentration of carbon dioxide (CO₂) in the Earth's atmosphere surpassed 400 parts per million in May 2013 for the first time in several million years underscores the urgency of a transition to a low-carbon economy¹⁴⁶.

Since 2009, the total scope 1 and 2 emissions of the ten biggest emitters in the sector have increased by 53%¹⁴⁷. Energy companies have been slow in recognising and acting upon climate change worldwide. Most fossil fuel companies provide very limited information about actions to mitigate and adapt to climate change. In fact, the

¹⁴⁵ For an explanation of CDP's different scopes please see: [<https://www.cdproject.net/en-US/Respond/Documents/Webinars/2012/accounting-boundaries-and-scopes.pdf>]

¹⁴⁶ The New York Times (10 May 2013) Heat-Trapping Gas Passes Milestone, Raising Fears. *The New York Times*. Available at [http://www.nytimes.com/2013/05/11/science/earth/carbon-dioxide-level-passes-long-feared-milestone.html?pagewanted=all&_r=1&]

¹⁴⁷ CDP (September 2013) *CDP Global 500 Climate Change Report*. Available at [<https://www.cdproject.net/CDPResults/CDP-Global-500-Climate-Change-Report-2013.pdf>]

energy sector has the highest proportion of companies without emission targets (24%)¹⁴⁸. Shareholder resolutions asking Exxon and ConocoPhillips' Board of Directors to adopt quantitative goals, based on current technologies, for reducing total GHG emissions from their products and operations have been submitted for the past three years. Despite significant voting support (26.7% and 29.4% in 2013, respectively), resolutions failed to secure corporate commitments or lead to further engagement on the issue¹⁴⁹. Instead, companies tend to focus on energy efficiency projects throughout their business activities, which, although important, have been insufficient in capping company-wide emissions¹⁵⁰.

A close examination of shareholder resolutions submitted to fossil fuel companies over the past few years leads to the conclusion that successes have been limited to certain areas where either the issue is politically hot, such as toxicity of fracking fluids or hydraulic fracturing impacts, or too basic, such as the requirement to issue a sustainability report¹⁵¹. In these cases, the proposal is often withdrawn following a company commitment to address the issue, or put to vote with high support levels of around 30%, opening further doors of negotiation with the company. However, resolutions that hint to a more transformative change – as opposed to incremental

¹⁴⁸ Ibid.

¹⁴⁹ *ExxonMobil GHG Reductions 2013*. Shareholder resolution filed by Tri-State Coalition for Responsible Investment. Available at [<http://www.ceres.org/investor-network/resolutions/exxonmobil-ghg-reductions-2013>];

ConocoPhillips GHG Reduction Goals 2013. Resolution filed by Presbyterian Church (USA). Available at [<http://www.ceres.org/investor-network/resolutions/conocophillips-ghg-reduction-goals-2013>]

¹⁵⁰ Ibid.

¹⁵¹ Based on data compiled by public interest groups CERES and ICCR, and coalition builders ShareAction and As You Sow.

steps – such as the need to set quantitative GHG emission reduction targets or address physical risks of climate change, are still unsuccessful in prompting corporate change.

As another example, resolutions dealing with the exposure of companies' physical facilities to extreme weather events and rising sea levels were filed at Chevron¹⁵², ExxonMobil¹⁵³, and Amazon.com¹⁵⁴ in the 2013 annual voting season. Whilst in the case of Amazon.com the resolution was withdrawn after the company agreed to address the risks and issue a report to shareholders, the same success was not achieved with the fossil fuel companies.

Shareholders pointed out that Exxon's 2012 Energy Outlook projects increases in global energy demand by 30% by 2040 compared to 2010, including continuing increases in CO2 emissions until 2030¹⁵⁵. Climate change statements are vague and provide no actual data or plans on how Exxon plans to adapt to climate change¹⁵⁶. In the resolution filed at Chevron, shareholders highlighted the risks of "rising sea levels, storm surge and increased severity of hurricanes [that] could impact shoreline facilities, offshore drilling facilities, and sea transport of oil; increasing temperatures

¹⁵² CHEVRON CLIMATE RISK 2013. Shareholder Resolution filed by The Christopher Reynolds Foundation. Disclosed by Ceres. Available at: [<http://www.ceres.org/investor-network/resolutions/chevron-climate-risk-2013>]

¹⁵³ EXXONMOBIL CLIMATE RISK REPORT 2013. Shareholder Resolution filed by The Christopher Reynolds Foundation. Disclosed by Ceres. Available at: [<http://www.ceres.org/investor-network/resolutions/exxonmobil-climate-risk-report-2013>]

¹⁵⁴ AMAZON CLIMATE RISK REPORT 2013. Shareholder Resolution filed by Calvert Asset Management Company. Disclosed by Ceres. Available at: [<http://www.ceres.org/investor-network/resolutions/amazon-climate-risk-report-2013>]

¹⁵⁵ EXXONMOBIL CLIMATE RISK REPORT 2013. Shareholder Resolution filed by The Christopher Reynolds Foundation. Disclosed by Ceres. Available at: [<http://www.ceres.org/investor-network/resolutions/exxonmobil-climate-risk-report-2013>]

¹⁵⁶ Ibid.

[that] could melt permafrost impacting the stability of oil pipelines and other Arctic drilling and transport operations; changes in temperature and rain patterns [that] could disrupt agriculture and living conditions that could lead to political unrest in areas where our company has facilities”¹⁵⁷.

It is a positive outcome when resolutions filed lead to increased engagement and cooperation between the company and its shareholders, even without receiving a majority vote. Resolutions, particularly new ones, often attract media attention and are effective in bringing issues to the front and mobilising peers. The problem is that, by focusing solely on resolutions and engagement, shareholders risk being distracted by small compromises and incremental change when the level of transformation required in the energy sector is far higher. The business model of extractive companies is based on the burning and exploitation of fossil fuels and there is a limit to what can be achieved through resolutions and engagement.

Echoing this opinion, a 2013 Citi banking group report on Australian mining companies concluded that there is "limited potential for engagement to alter the outcome in this case [...] if the unburnable carbon scenario does occur – even with carbon capture and storage technology – it is difficult to see how the value of fossil fuel reserves can be maintained [...] investors who strongly believe in ‘unburnable carbon’ would find it more productive to actively tilt their portfolios (i.e., sell fossil-

¹⁵⁷ CHEVRON CLIMATE RISK 2013. Shareholder Resolution filed by The Christopher Reynolds Foundation. Disclosed by Ceres. Available at: [<http://www.ceres.org/investor-network/resolutions/chevron-climate-risk-2013>]

fuel firms)”¹⁵⁸. The Smith School report on divestment suggests a more phased approach: “for institutions considering divestment, engage with the management of target firms. Are they paying lip service to concerns or are they serious about tackling them? Divestment is perhaps the final, and most drastic, instrument in an investor’s corporate engagement toolkit. Considerable communication with management of the target firm can be undertaken to influence behaviour before using up the trump card of divestment”¹⁵⁹.

In fact, in September 2013, a group of 70 global investors with US\$3 trillion of collective assets launched the first ever coordinated effort to demand that the world’s 45 leading fossil fuel companies, including Exxon, BP and BHP Billiton, assess the financial risks a carbon bubble poses to their businesses¹⁶⁰. Investors signing the letters include public pension funds CalPERS and CalSTRS, the New York State Comptroller, and the Scottish Widows Investment Partnership. In the letters, they acknowledge that these are complex issues and welcome the opportunity to meet with management to discuss the matter, but request detailed responses in advance of 2014 AGMs. As investors with long-term investment strategies, they want to understand “how current and probable future policies to make these emissions reductions will

¹⁵⁸ PARKINSON, G. (9 April 2013) Dig, baby, Dig! Citi says coal investments at risk. *Reneweconomy*. Available at [<http://reneweconomy.com.au/2013/dig-baby-dig-citi-says-coal-investments-at-risk-20942>]; ALEMBAKIS, R. (12 April 2013) Assessing fossil fuel value in an “unburnable carbon” world. *The Sustainability Report*. Available at: [<http://www.thesustainabilityreport.com.au/assessing-fossil-fuel-value-in-an-unburnable-carbon-world/3601/>]

¹⁵⁹ ANSAR, A., CALDECOTT, B. & TILBURY, J. (2013) Stranded assets and the fossil fuel divestment campaign: what does divestment mean for the valuation of fossil fuel assets? *Smith School of Enterprise and the Environment*, University of Oxford. Available at: [<http://www.smithschool.ox.ac.uk/research/stranded-assets/SAP-divestment-report-final.pdf>]

¹⁶⁰ Letter to Oil & Gas Companies from Investors (9 September 2013). Available at: [http://www.ceres.org/files/car-mats/car-release/compiled-company-letters/at_download/file]

impact capital expenditures and current assets in the oil and gas sector and how the physical impacts of unmitigated climate change will impact the sector's operations"¹⁶¹.

As the divestment movement grows, the bargaining power of shareholders is likely to increase. In time, companies may come to realise that joining the growing divestment movement will become a stronger option to shareholders who have tried and failed to be heard through the traditional channels of engagement and resolution. From this perspective, divestment as an option or a credible threat can contribute to a scenario where fossil fuel companies are more willing to listen to shareholders' requests and work with them to address climate change risks. Therefore, the growth of the divestment movement can have the indirect benefit of strengthening the position of shareholders opting for engagement and resolutions.

Finally, Drew Faust's statement on Harvard's decision not to divest ignores broader moral dimensions of their investment decisions by stating that "the endowment is a resource, not an instrument to impel social or political change"¹⁶². It reflects an outdated expectation that businesses can detach themselves from broader societal issues that affect the well-being of present and future generations. A recent article in the Guardian explains this well: "it is simply not viable to set limits of involvement or to persist in the view that the role of business is to generate wealth and shareholder

¹⁶¹ Ibid.

¹⁶² Harvard University (3 October 2013) Fossil Fuel Divestment Statement. *Office of the President, Harvard University*. Available at: [<http://www.harvard.edu/president/fossil-fuels>]

value rather than to play a full and active role in building societies – including getting directly involved in the complex moral issues that affect us all.¹⁶³»

Overall, there is no preferred strategy as long as there is one: divestment, engagement and resolutions are just different routes on a pathway to resilient asset allocation. Each has its strengths and limitations, but together they are always stronger. Shareholders will only succeed in influencing substantial corporate change in long-established and politically influential fossil fuel companies if acting together and continuously.

4.5 Limitations to shareholder activism

In addition to the aforementioned lack of clarity around fiduciary responsibility, other barriers that limit shareholder activism on climate change still remain. This session will highlight some of these structural and cognitive barriers that explain, to a large extent, why current capital allocation is highly biased towards fuelling a high carbon economy. This discussion can help identify areas where change is desired, or where incentives are lacking, and offer indications to activists, investors and regulators on where to concentrate resources to accelerate the transition to a low-carbon economy.

The first barrier is structural in nature. Most investors are ‘benchmarked’, meaning that their performance is tracked against a global or national metric (such as the MSCI

¹⁶³ The Guardian (24 September 2013) Business cannot avoid involvement in cultural, social and moral issues. *The Guardian*. Available at: [<http://www.theguardian.com/sustainable-business/business-confront-cultural-social-moral-issues>]

world stock index, the S&P 500 or the FTSE 100)¹⁶⁴. Because of this, investors often find it difficult to deviate too far from the benchmark in terms of the stocks they decide to hold, or not hold. The problem is that the main benchmarks are comprised of a large number of high carbon companies. It is no surprise, therefore, that investor portfolios also are carbon heavy. Since benchmarks are used to track performance against peers in the investment industry, they are used extensively and are important for capital allocation decisions. In the UK, 72.6% of corporate pension funds used an index benchmark as the primary performance objective in 2009¹⁶⁵.

This structural reality makes it more difficult for investors to decarbonize their portfolios. Divesting from fossil fuel companies is not an option unless the investor drops the benchmark completely. Also, benchmarking dilutes ownership and, with that, discourages engagement as a means to change corporate behaviour. Engagement requires a commitment of money and time that is harder to justify if the number of companies is high, and individual holdings are small.

The second barrier refers to a timescale mismatch between capital markets and perceived climate change risks. Capital markets continue to be driven by short-term investment approaches, which reward quarterly performance of companies and fund managers¹⁶⁶. Climate change is still perceived as mostly a threat to future generations and, for this reason, does not spur a sense of urgency. Investors are discouraged to deploy money today to finance the low-carbon transition – such as the investments

¹⁶⁴ UK Parliament (18 August 2011) Environmental Audit Committee - Green Economy, *Written evidence submitted by Carbon Tracker Initiative*. Available at: [\[http://www.publications.parliament.uk/pa/cm201012/cmselect/cmenvaud/1025/1025vw06.htm\]](http://www.publications.parliament.uk/pa/cm201012/cmselect/cmenvaud/1025/1025vw06.htm).

¹⁶⁵ Ibid.

¹⁶⁶ Ibid.

needed for energy efficiency retrofits, renewable generation and smart grid systems – despite the fact that these have been proven to make economic sense over a longer timeframe.

Tackling climate change requires the development of long-term strategies under deep uncertainty, whilst simultaneously implementing agreed-upon strategies steadily over time¹⁶⁷. This is not an easy task, especially since climate change is “about protecting a pure collective good, this good is truly global in scope, and time-lags between cause and effect are very long in some instances.”¹⁶⁸ When considered alongside challenges of long-term implementation, these qualities expose a number of ‘commitment problems’¹⁶⁹. Of these, perhaps the most difficult one is the ‘time inconsistency’ problem, “which suggests that all market players, including investors and regulators, will have difficulty making short-term sacrifices to achieve long-term gains”¹⁷⁰.

Behavioural economics - representing an interdisciplinary merger of cognitive psychology and economics - emphasises this form of myopia that explains many of the choices people make throughout their lives, and that is reflected in the way capital markets work. Human beings are far more attentive to immediate threats than to long-term ones. We often neglect the future, which explains why some of us fail to save for retirement or end-up engaging in risk-taking behaviour (such as smoking or unhealthy

¹⁶⁷ HOVI, J., SPRINZ, D.F. & UNDERDAL, A. (2009) Implementing Long-Term Climate Policy: Time Inconsistency, Domestic Politics, International Anarchy. *Global Environmental Politics* (9)3: 20-39.

¹⁶⁸ Ibid.

¹⁶⁹ Ibid.

¹⁷⁰ COLLINS, J. (2012) Assessing International Cooperation on Climate Change: A Neoliberal Analysis of the Effectiveness of Formal International Environmental Institutions. *Mapping Politics Memorial University Political Science Journal*, volume 4.

eating) that will harm our future selves.

The problem is that there is a particular urgency about environmental investment, because in every year in which it is not deployed, environmentally damaging and high carbon capital will be laid down in its place, locking in high emissions and resource depletion for years to come. OECD's Green Growth Studies from 2011, for instance, confirmed that it is cheaper in the long-term to act now as for every US dollar that is not spent on investment in the energy sector before 2020, an additional US\$4.3 will need to be spent after 2020 to compensate for increased GHG by building zero-carbon plants and infrastructure by 2035¹⁷¹. Unless investors and regulators drive forward a more long-term model, the status quo of using capital to find more fossil fuel reserves is likely to be perpetuated, at the expense of long-term sustainability.

Steve Waygood, current Head of Sustainability Research and Engagement at Aviva Investors, refers to (i) market inefficiency and (ii) market failure to explain why capital markets currently allocate capital in a way that undermines sustainable development¹⁷². Market inefficiency refers to the fact that institutional investors and fund managers are often more concerned about short-term costs of an initiative than long-term benefits arising from it. From experience, he says, this behavioural problem leads company directors who wish to enhance shareholder value to concentrate on the quarterly earning figures at the expense of investing in the long-term health of the company.

¹⁷¹ OECD (2011) *OECD Green Growth Studies – Energy*. OECD and International Energy Agency. Available at: [<http://www.oecd.org/greengrowth/greening-energy/49157219.pdf>]

¹⁷² WAYGOOD, S. (2011) How do the capital markets undermine sustainable development? What can be done to correct this? *Journal of Sustainable Finance & Investment*, 1:1, 81-87.

Market failure refers to the fact that governments have failed to sufficiently internalise companies' environmental and social costs onto corporate profit and loss statements¹⁷³. Indeed, until this market failure is corrected, it would be irrational for investors to incorporate full social and environmental costs as they do not appear on the balance sheet and, therefore, do not affect companies' profitability or earnings per share over the investment time horizon. This perpetuates investment in the fossil fuel industry, locking it into a high carbon portfolio.

The behavioural finance literature offers further explanation as to why current allocation of capital is fuelling a high carbon economy. Investor judgment can be influenced by internal and external factors such as: (i) the psychology of other individuals or groups within the marketplace (e.g., the notion of crowd psychology, herd behaviour); (ii) events that are easier to recall, influenced by information that is vivid, well publicised or recent (e.g., availability heuristics); (iii) an inclination to overestimate our own skills, ability, and predictions for success (e.g., overconfidence)¹⁷⁴. Behavioural finance also shows that when faced with complicated choices involving lots of information and conflicting views, such as climate change, investors tend to adopt simplifying decision strategies that require less cognitive effort

¹⁷³ Ibid.

¹⁷⁴ RICCIARDI, V. (2008) *The Psychology of Risk: The Behavioural Finance Perspective*. HANDBOOK OF FINANCE: VOLUME 2: INVESTMENT MANAGEMENT AND FINANCIAL MANAGEMENT, Frank J. Fabozzi, ed., John Wiley & Sons, 85-111, 2008; KAHNEMAN, D., & LOVALLO, D. (1993). Timid choices and bold forecasts: A cognitive perspective on risk taking. *Management Science*, 39, 17-31; KAHNEMAN, D. (2011). *Thinking, Fast and Slow*. New York: Farrar, Strauss, Giroux.

but that are less precise than more complex decision strategies¹⁷⁵. These characteristics explain why individuals systematically violate the normative tenets of rationality upon which the neoclassical model in economics is built. They also explain why investors continue, for the most part, to allocate capital to high carbon assets that have historically performed well, despite mounting evidence that climate change can destroy most of the value of these assets¹⁷⁶.

Availability heuristics explains why after events that attract huge media attention, such as hurricane Sandy, BP's Deepwater Horizon disaster, or the burst of the housing bubble in the US, investors are often spurred into action. This wave of activism, however, loses its significance the further away in time the event happens. Unless a big, permanent change happens and the environment in which investors operate changes substantially – for instance, an irreversible, global-wide catastrophe associated with climate change, or a successful global campaign that manages to stigmatise fossil fuel companies in the eyes of investors and the wider public – capital allocation will continue to fuel a high carbon economy.

Finally, a fundamental reason that undermines the flow of capital towards low-carbon solutions and away from carbon-intensive technologies is the lack of consistent, long-lasting policy efforts by world governments, especially in major greenhouse gas emitting nations. Investors have expressed this frustration in the 3rd Annual Global

¹⁷⁵ RICCIARDI, V. (2008) *The Psychology of Risk: The Behavioral Finance Perspective* HANDBOOK OF FINANCE: VOLUME 2: INVESTMENT MANAGEMENT AND FINANCIAL MANAGEMENT, Frank J. Fabozzi, ed., John Wiley & Sons, 85-111, 2008.

¹⁷⁶ BURKE, T. (2013) Future Imperfect: The Collision of Climate and Carbon. *Montrose Strategic Intelligence and Advice Journal*. Summer 2013 Available at [<http://www.montroseassociates.biz/article.asp?aid=84>]

Investor Survey on Climate Change, commissioned by the Networks of the Global Investor Coalition on Climate Change¹⁷⁷. The report on actions and progress states that “while members of the investor networks surveyed continue to show a strong commitment to addressing climate change in their investment activities, translating that commitment into investment decisions that reduce climate risks to portfolios and leverage climate-related investment opportunities remains a challenge.¹⁷⁸” To achieve the necessary transition to a global low carbon economy, “credible, consistent legal frameworks regulating GHG emissions and incentivising clean energy investment are essential [...] institutional capital can and will flow at scale into clean energy and low carbon solutions only with adequate policy support that provides the necessary degree of investment certainty.¹⁷⁹” Shareholders would be more inclined to act in the case of high-impact sectors – either through engagement, voting or divestment – if there was a strong belief that ambitious regulation limiting GHG emissions would soon be passed.

In its first book *Economyths*, the mathematician David Orrell reminds us that market norms are no substitute for ethics and that pension fund managers are not paid to make ethical decisions or enforce standards¹⁸⁰. We therefore need strong institutions and regulations that enforce ethical standards at source in a uniform and democratic fashion¹⁸¹. Orrell rightly points out that it is encouraging to see issues like climate

¹⁷⁷ Global Investor Coalition on Climate Change (2013) *Global Investor Survey on Climate Change – 3rd Annual Report on Actions and Progress*. Ceres. Available at:

[<http://www.ceres.org/resources/reports/global-investor-survey-on-climate-change-2013>]

¹⁷⁸ Ibid.

¹⁷⁹ Ibid.

¹⁸⁰ ORRELL, D. (2012) *Economyths*. p.262-263. Icon Books. London, UK.

¹⁸¹ Ibid.

change and tar sands “increasingly being framed in an ethical rather than a purely market context, because once ethical judgements are established, in the form of laws or social taboos, they tend to be long-lasting and will eventually outweigh even the profit motive. Market forces may not be able to pick up the opinions of future generations, but our sense of ethics can.¹⁸²”

¹⁸² Ibid.

5. Conclusion and recommendations

Alert to recent weather extremes and informed by a new body of literature on the financially material effects of climate change and mitigation policies, shareholders are taking a more active stance with the management team of the companies they invest in. The energy sector, still heavily dependent on fossil fuels, will need to undergo a radical transformation if we are to succeed in tackling climate change. As fiduciaries and universal owners with holdings across the economy, endowments, pension funds and similar institutional investors are highly vulnerable to climate risks. Due to a lack of consistent legal frameworks regulating GHG emissions, as well as a number of structural and cognitive barriers mentioned in the current study, investment portfolios are still biased towards high-carbon assets.

This dissertation has shown that, in the last few years, more resolutions have been filed at fossil fuel companies on a number of climate change-related topics. On the back of this movement, more engagement is taking place. At the same time, a fossil fuel divestment movement is spreading worldwide on both ethical and financial grounds, with a strong base of student support. Although often framed in opposition, these three different approaches complement and reinforce each other and are important signs that shareholders are starting to address carbon intensive portfolios.

Direct impacts of a divestment campaign are likely to be minimal. However, if successful in triggering a process of stigmatisation, it can make the legislative environment more challenging and create greater uncertainty over future cash flows that can permanently depress the valuation of fossil fuel companies. The current study

also suggests that divestment as a final instrument in investors' corporate engagement toolkit is likely to increase their bargaining power, encouraging managers of fossil fuel companies to be more responsive to engaged shareholders.

In the next few years, with mounting scientific evidence of anthropogenic climate change and growing understanding of climate risks, it will be interesting to see if shareholders will escalate their demands, submit more numerous and forceful resolutions during annual meetings, and intensify the engagement process with management of targeted companies. Equally, it will be important to assess to how extent these efforts have been successful in changing corporate behaviour and encouraging the transformative, low-carbon revolution that the sector needs. One positive step in this direction is the aforementioned letter sent in September 2013 by 70 global investors to 45 leading fossil fuel companies. This collaborative initiative sets a new precedent for engagement by requesting detailed explanations in advance of 2014 AGMs on how companies plan to address climate risks.

Recommendations to investors are as follows:

Investors need to address their carbon exposure and undertake stress tests on how policy changes and physical impacts of climate change will affect their portfolios over the medium and long-term. In light of the emerging body of literature on unburnable carbon and stranded assets, shareholders should request that fossil fuel investee companies assess and disclose information on how future policies to reduce GHG emissions will impact capital expenditures and projects in the sector, and how the physical impacts of unmitigated climate change will impact their operations.

Shareholder activism – either through engagement, resolutions, or divestment – must be understood as a powerful strategy to influence corporate behaviour and influence low-carbon policy in the interest of beneficiaries’ investment goals and wider well-being.

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