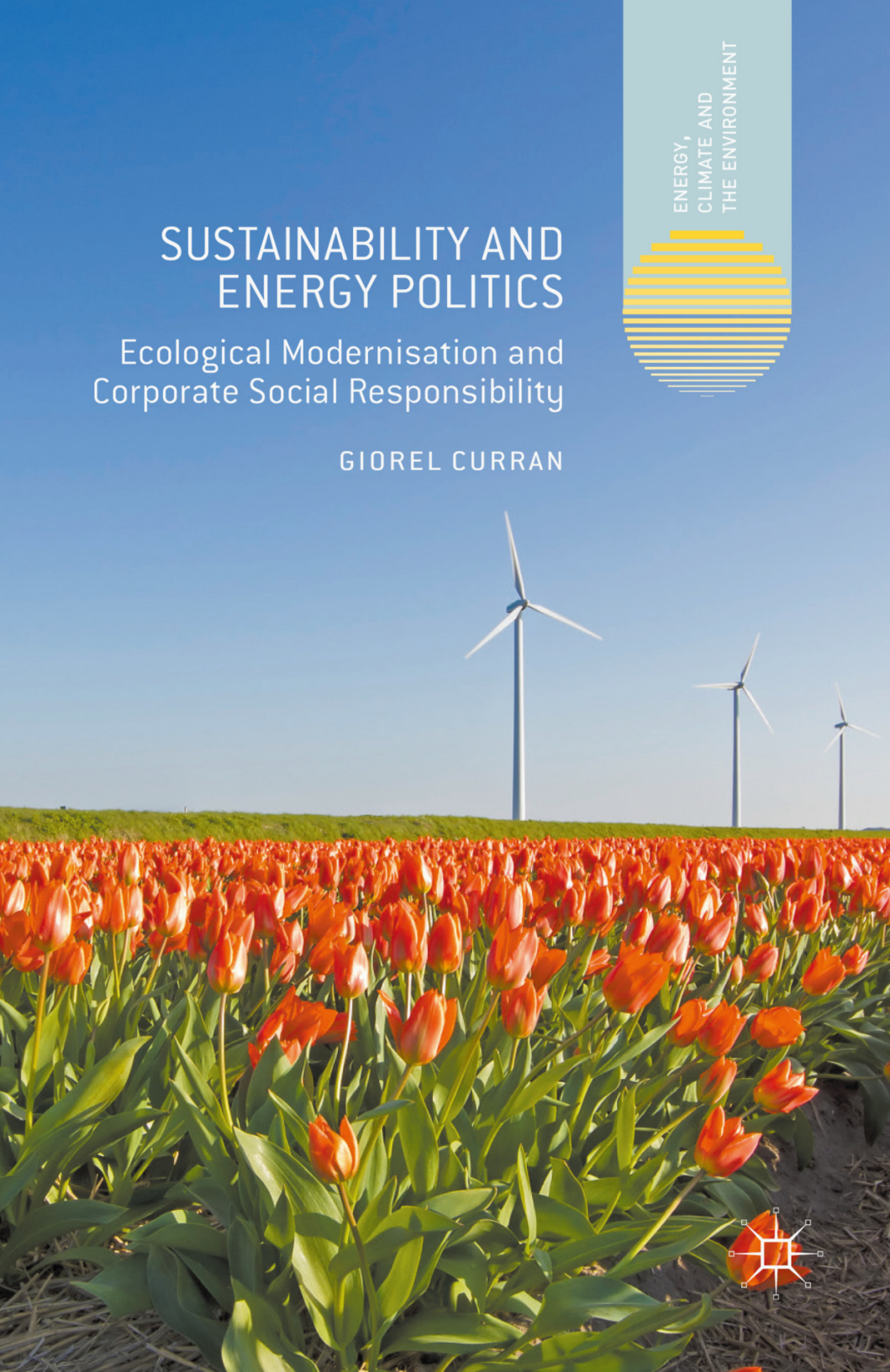
ENERGY, CLIMATE AND THE ENVIRONMENT

SUSTAINABILITY AND ENERGY POLITICS

Ecological Modernisation and Corporate Social Responsibility

GIOREL CURRAN



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Sustainability and Energy Politics

Ecological Modernisation and Corporate Social Responsibility

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Series Editor's Preface

Energy, Climate and the Environment

Concerns about the potential environmental, social and economic impacts of climate change have led to a major international debate over what could and should be done to reduce emissions of greenhouse gases. There is still a scientific debate over the likely *scale* of the severity of climate change, and the complex interactions between human activities and climate systems, but, global average temperatures have risen and the cause is almost certainly the observed build-up of atmospheric greenhouse gases.

Whatever we now do, there will have to be a lot of social and economic adaptation to climate change – preparing for increased flooding and other climate-related problems. However, the more fundamental response is to try to reduce or avoid the human activities that are causing climate change. That means, primarily, trying to reduce or eliminate emission of greenhouse gases from the combustion of fossil fuels. Given that approximately 80 per cent of the energy used in the world at present comes from these sources, this will be a major technological, economic and political undertaking. It will involve reducing demand for energy (via lifestyle choice changes – and policies enabling such choices to be made), producing and using whatever energy we still need more efficiently (getting more from less), and supplying the reduced amount of energy from non-fossil sources (basically switching over to renewables and/or nuclear power). Each of these options opens up a range of social, economic and environmental issues. Industrial society and modern consumer cultures have been based on the ever-expanding use of fossil fuels, so the changes required will inevitably be challenging. Perhaps equally inevitable are disagreements and conflicts over the merits and demerits of the various options and in relation to strategies and policies for pursuing them. These conflicts and associated debates sometimes concern technical issues, but there are usually also underlying political and ideological commitments and agendas which shape, or at least colour, the ostensibly technical debates. In particular, at times, technical assertions can be used to buttress specific policy frameworks in ways which subsequently prove to be flawed. The aim of this series is to provide texts which lay out the technical, environmental and political

issues relating to the various proposed policies for responding to climate change. The focus is not primarily on the science of climate change, or on the technological detail, although there will be accounts of the state of the art, to aid assessment of the viability of the various options. However, the main focus is the policy conflicts over which strategy to pursue. The series adopts a critical approach and attempts to identify flaws in emerging policies, propositions and assertions. In particular, it seeks to illuminate counter-intuitive assessments, conclusions and new perspectives and to look at what works and at what doesn't. The present text has a broad canvas, the overall process of global sustainable development seen through the prism of ecological modernisation (EM) and corporate social responsibility (CSR). It suggests that these approaches have, in practice, largely replaced or subsumed earlier wider ranging debates over what sort of transition was needed and how it might be achieved. Not everyone will agree, or welcome what some might depict as an acceptance of simply a new variety of capitalism, and the book does look at earlier wide ranging eco-socialist and eco-feminists critiques. But its focus is on what is actually happening, with energy case studies drawing on, and comparing, policies and programmes around the world, for example in the United States, Germany and Australia. It is fairly optimistic about the future, which may seem surprising given current battles over, for example, fossil fuel use and carbon emission reductions, quite apart from wider debates over whether economic growth can continue indefinitely. But the usual claim, from those promoting the EM view, is that constraints can become opportunities and that gains can outweigh pains in a 'win-win' future. This book charts the extent to which views like this hold sway, and certainly, as it illustrates, they are playing a significant role, with, for example, the spread and corporate adoption of renewables promising to avoid many of the problems with the world's existing energy base.

Preface and Acknowledgments

I have been researching and writing about sustainability issues for quite a while now – and they remain as important, if not more so, today than they ever did. Sustainability is not just a theoretical enterprise – as interesting and enjoyable as it is to consider it from various theoretical and philosophical perspectives. And I have been privileged to do so over almost 20 years. The idea of sustainability underpins the quality of all of our lives, and certainly all of our futures. Hence another of my privileges is to have had the good fortune of being in a profession that allows me to consider and interrogate such important issues for a living – from both theoretical perspectives and empirically grounded ones. This book also represents a consolidation of my various research interests. Putting it all together in this book has been especially satisfying. It has also allowed me to systematically survey the significant changes that have been occurring in the sustainability domain for several decades. Some are deeply heartening, others equally daunting.

While the 'crossroads' metaphor is probably overdone, at the same time – and perhaps more than ever before – we are indeed at a crossroads with the sustainability enterprise. There is no denying that climate change is advancing rapidly and in this regard at least time is increasingly not on our side. This raises significant challenges, as explored in the book, especially since social and environmental change is often slow, incremental and circular – and meets as many adversaries as it is does enthusiasts. But change does occur and, as also identified in the book, can often be found even in places that ostensibly set out to stymie the sustainability momentum rather than advance it.

As always, this book could not have been possible without the input of many others – colleagues, friends, family and institutional supporters. Providing a list is always dangerous for what it leaves out more so than what it includes, so I first want to communicate a big thank you to all who have supported me throughout the writing of this book – and I trust that they will know who they are. But I will still single out a few names in particular. I am very grateful first and foremost to my family, who have been very patient with me for a considerable period of time, and who have had to bear the consequences of my stresses and struggles. So a special thank you to Jamie, Tess and Jonathan. My colleagues

too have been particularly supportive and patient, and helped me shape the project in a way that I hope holds up. There are a lot of people to thank here so I certainly won't tempt fate with a list, but particular thanks does need to go to Elizabeth van Acker, Robyn Hollander and Yvonne Hartman who supported my efforts throughout. Their input and support have been invaluable – although the usual proviso applies: any weaknesses are mine alone and probably the result of not heeding their advice. A special thanks also goes to my editor Daniela di Piramo who did a sterling job in helping put the whole manuscript together; it truly would not have been possible to complete the project without her. And another special thanks to one of my researchers – Paul Norton – who went through the manuscript with the fine eye to content detail that only he can apply. Last, but certainly not least, I would like to thank the Centre for Governance and Public Policy, and in particular its Director Haig Patapan, who not only provided financial support to help me complete the project, but also encouraged me from the beginning to write the book, and sustained this enthusiasm throughout.

On another level, I also want to thank many of my students who have discussed these ideas with me over a number of years of teaching and researching sustainability. They have reinforced my faith that these issues remain very important and that, for young people in particular, they remain very confronting. It is thus important to keep having this conversation about sustainability, in book form or otherwise; conversation is, after all, the first step in social change.

Introduction

Sustainability – shorthand for sustainable development (SD) – is one of today's new buzzwords. It is now a well-established part of the vernacular in many countries across the globe, but especially in the advanced industrial democracies. For many, the widespread penetration of sustainability into both language and culture signifies environmentalism's success in making its case about a planet in peril. But contemporary sustainability has an additionally important meaning – signalling the centrality of business, particularly the corporate sector, to the environmental agenda today. Importantly, business was no longer to be viewed simply as the problem; it would now become a key part of the solution. While business' embrace of a corporate responsibility ethos is critical to the sustainability enterprise, and was acknowledged as such by many, not all welcomed the sustainability route it would go on to champion. For some sustainability, and now corporate sustainability, highlights the easy fluidity of a term that can be made to mean very much or very little. Others look with increasing alarm at what they consider business' co-optation, and subsequent dilution, of the environmental agenda. But what both sides agree on is that the conversation about environmental issues, their situation within politics and society, and the position that contemporary business adopts in relation to them, have undergone considerable transformation over a relatively short period.

This book considers this transformed sustainability landscape and the implications it raises for the capacity to pursue environmental renewal in a timely and meaningful way. But the book interrogates sustainability in a very specific way: through the prism of two main discourses – ecological modernisation (EM) and corporate social responsibility (CSR) – that, it contends, fundamentally shape it. The dispersion of the language and ethos of sustainability, particularly as encapsulated by the

discourses of EM and CSR, suggests something of a paradigm shift; or, at least, of a wide-ranging transformation in how environmental issues are understood and how social systems (including the economic and political) respond to them. Overall, this book considers the character of today's sustainability 'paradigm'; how the discourses of EM and CSR shape it; and how the application of these discourses and practices in a number of countries influences the outcomes in the energy-related case studies that the book examines.

EM theory proposes that while environmental reform is essential, it presents as many opportunities as it does challenges. Through a commitment to technological innovation, environmental degradation can be decoupled from economic development in a manner that proves beneficial for both business and the environment. As a corporate management approach, CSR urges corporations to acknowledge the impact their activities have on the social and physical environment and to extend their social responsibilities beyond the primacy of shareholder value. Through its championing of the 'sustainable corporation', CSR proposes that the corporate sector should not only participate in but also lead the sustainability charge.

Both EM and CSR offer compelling sustainability narratives. They tell very positive stories about environmental renewal, reassuring business and society that the sustainability effort is neither overwhelming nor overly demanding. This reassurance is strategically contrasted to the more critical environmentalist analysis that highlights the difficult power relations, burden sharing and justice elements of environmental protection. Instead, EM and CSR promise that sustainability can be achieved without any significant disruption to business as usual. It is not modern industrial society as a whole that is being challenged, rather parts of how it operates. While early business responses to environmentalism were often resistant ones, the 'new corporate environmentalism' promotes business as collaborative partners with government and civil society in the sustainability drive. The industrial modernisation strategies proposed by EM – particularly those emphasising technological innovation and market tools within a neo-liberal market framework – were flagged as central to achieving the goals of corporate sustainability.

As we will soon see, the views on EM and CSR are divided – from those who champion their virtues, to others who are fundamentally sceptical of their credentials. But there is little doubt of the scope, reach and penetration of these discourses in shaping today's sustainability paradigm. This shift in emphasis reframes the environmental agenda in significant ways – a reframing this book traces and analyses. Before doing

so, however, it is important to consider the broader political economy context in which EM and CSR are situated, and which influences the norms and practices they adopt.

Contemporary political economy

Globalisation and neo-liberalism have shaped the contemporary political economy in significant ways. It is thus no surprise that the role of business and its interaction with society have also 'undergone a profound transformation over the past few decades' (Gjølberg, 2009: 605). Neo-liberalism seeks to enhance the individual and corporate freedoms that are considered fundamental to driving entrepreneurialism as well as social and economic progress. According to neo-liberal theory, the trick is to better release the potential of markets so that they maximise their capacity for economic and social good. But to do so, over-reaching governments and states will need to be corralled since they can stymie this potential. Some in neo-liberalism's camp wish to keep the state as 'small' as possible in the belief that markets work best when only minimally impeded. The view here is that business know its business best, and that governments can be 'captured' by powerful interest groups who then distort the 'organic' functioning of the market (Harvey, 2005: 2).

Despite these closely held beliefs, the reality is somewhat different, for two main reasons. First, there is a co-dependent relationship between government and business which sees each relying on the other to fulfil their own political or corporate ambitions (see Lindblom, 1977). Despite neo-liberal theory ascribing states a circumscribed role, in reality states support the business enterprise and, moreover, are often entreated and engaged by corporations to advance their commercial goals. To this degree, there is a significant gap between the theory and practice of neo-liberalism. As Harvey (2005: 203) concludes: the 'widening gap between rhetoric (for the benefit of all) and realization … is now all too visible … increasingly negated by the fact of the extraordinary monopolization, centralization, and internationalization of corporate and financial power' and the role the state itself can play in entrenching this power.

Nonetheless the common charge that neo-liberal globalisation has 'hollowed' out state power, or simply 'captured' it, is both verifiable and overblown. This goes to our second point. Governments are far from toothless – even in a neo-liberal age that has recast the government-business relationship through expanded corporate autonomy

and 'smaller' government. The issue is not whether corporate power is enhanced in the neo-liberal age; it is (Harvey, 2005; Crouch, 2011). Neo-liberalism's reaffirmed faith in markets as core drivers of economic success, particularly through their capacity to foster competition and innovation (which both EM and CSR embrace), and the view that appropriately unencumbered markets work best, has invested corporations with considerably enhanced powers. When combined with the view that markets are often the most effective solutions to many social problems, the role of contemporary corporations has expanded substantially beyond their circumscribed commercial role. The social responsibility narrative encapsulates this transformation.

Notwithstanding this, the issue is how still-powerful governments respond to corporations' own enhanced powers, and the major role the state continues to play in establishing the structural underpinnings of capital accumulation. This goes to the heart of the contemporary interactional dynamic between ecologically modernising governments (conceptualised as EM) and ecologically modernised corporations (conceptualised as CSR) that we interrogate in this book. The bargain struck between these two sectors, and the civil society actors who seek to influence the conditions of the bargain, will determine the forms of EM and CSR that prevail. This will in turn determine how sustainable development proceeds – or otherwise.

Neo-liberalism is hence more accurately conceived as 'a reorganisation of the role and practices of the state in relation to the economy, not a decline in state power' (McNeil and Paterson, 2012: 232). Different countries undertake this reorganisation differently, depending on their national profiles and historical contingencies. Hence, rather than there being just one kind of neo-liberal state, or 'hegemonic brand of neoliberalism', there are instead individual neo-liberal states which determine policy according to their own 'specific conditions and political relations' (2012: 236; see also Jessop, 2002). And even states that resist wearing the neo-liberal label – social democratic states, for example – have been touched significantly by it. But states remain central to whatever neo-liberal form is adopted and to the shape that environmental policies take (McNeil and Paterson, 2012: 232).

Varieties of capitalism

Hall and Soskice (2001) help us understand more specifically how different forms of government-business relations are maintained in different countries even in an overarching age of globalisation and neo-liberalism. The forms of EM and CSR that prevail are conditioned

by these different government-business relations, which in turn shape these countries' sustainability responses. The character of a country's sustainability approach, and the political and corporate modernisation strategies that underpin it, depend in large part on its political culture, economic profile, political system, interest group politics and the ideological persuasions of its political elites.

Globalisation may be pervasive, but Hall and Soskice (2001) do not consider that it automatically creates an unambiguous convergence of political economy forms and policies. The same is true, as we saw, with neo-liberalism. Instead a country's capitalist 'variety' helps shape its response to challenges such as globalisation and neo-liberalism. They identify two main types of market economies: liberal and coordinated; and find that the various political and institutional arrangements they contain help shape the influence of globalising forces on their government-business relations. In liberal market economies, '[m]arket relationships are characterised by the arms-length exchange of goods or services in a context of competition or formal contracting', with market competition largely providing 'a highly effective means for coordinating the endeavours of economic actors' (2001: 8). In coordinated market economies, economic actors instead 'depend more heavily on non-market relationships to coordinate their endeavours with other actors'; this entails 'more collaborative, as opposed to competitive, relationships to build the competency of the firm' (2001: 8; see also Dryzek et al., 2002). This means that in all countries, companies will tend towards the kind of coordination that is institutionally supported there (Hall and Soskice, 2001: 9). This in turn affects the corporate strategies of companies that operate in these countries, with 'differences in the institutional framework of the political economy generat[ing] systematic differences in corporate strategy' (2001: 16). We observe these differences in considerable detail in our subsequent chapters, particularly in terms of how they impact national sustainability forms.

Using Organisation for Economic Co-operation and Development (OECD) typology, and emphasising the centrality of both material investment and relational arrangements to the character of a market economy, Hall and Soskice (2001: 19–20) find that countries such as the United States, the United Kingdom, Canada, Ireland, Australia and New Zealand can be classified as liberal market economies; while others such as Germany, Japan, Sweden, Norway, Denmark, Switzerland and the Netherlands can be classified as coordinated market economies. While these categories change over time, this typology remains largely pertinent today. Importantly, both types of market economies

can enjoy considerable economic success. Germany's social market economy and its institutional corporatist form ensure strong relational interaction between business, government and labour. Consequently, many companies employ workers who are highly skilled, and exhibit strong firm commitment based on progressive employment conditions including inclusive work councils. However, this occurs in part because the corporate sector's financial interests are protected by factors such as an industrial relations system that discourages inter-company 'poaching' of highly trained employees (2001: 27). Importantly, this also encourages 'collective standard setting and inter-firm collaboration of the sort that promotes technology transfer' (2001: 27).

In liberal market economies such as the United States, the political economy landscape is arranged quite differently. In these economies the market plays a bigger decision-making role, with less institutional support for non-market coordination. The labour market is also less centrally regulated, with more emphasis placed on individual firm arrangements than on centralised and active labour collectives. This helps explain these economies' heavier reliance on macroeconomic conditions and competitive markets for wage and inflation outcomes, and the eschewing of specific industry training in preference for cross-transferable industry skills in highly fluid labour markets as a whole (2001: 30). The Australian experience has varied historically, tending to sit somewhere in between, even as its market economy has been considerably 'liberalised' over the past few decades.

Political and corporate decision-making

Globalisation and neo-liberalism may impact countries differently – but all are impacted in important ways. One of the most significant impacts has been on political decision-making, particularly in an era of 'governance'. This plays out in both very broad and very specific ways. On a broad level the state remains powerful, although significant changes to political decision-making have occurred over the past few decades. A deregulatory and privatisation momentum has seen states vacate, or significantly reconfigure, direct management of some important economic and societal domains. The contemporary corporation has often stepped into this vacuum, which has enlarged and empowered it as a result. So large are some corporations today, and so integral to the operation and health of the whole economy, that they necessarily assume a broader political function of societal equilibrium – formally a function allocated to the state. Understood this way, corporations today have thus 'emerged as key actors in maintaining the overall stability,

not just of the economy, but of society in general' (Crouch, 2011: 124). In this kind of environment, the interdependent relationship between business and the state is both blurred and reinforced. The discourse and practice of CSR represents a major strategy for functioning within the new political economy, as well as managing it.

But increased corporate autonomy can also come at a price. As governments abdicate some of their functions in favour of corporations, corporate power may be enhanced but so too are social expectations of corporate behaviour (see Matten and Crane, 2005). The modern corporation may have more capacity than ever to shape society in a manner that serves its interests, but to do so it needs legitimacy (Marens, 2013: 455). Such legitimacy usually derives from evidence-based socially responsible behaviours, with rhetoric easily exposed in a sophisticated technological age that renders the world more transparent. Hence, while companies may have succeeded in their ideological quest for 'small' government, their newfound freedoms can prove costly. Corporations can be 'held responsible for a range of issues that were previously considered the sole responsibility of the state', including corporate responsibility for the environment (Gjølberg, 2009: 605). Furthermore, as state functions diminish and the scope of corporate power grows, civil society actors transfer their social petitioning to corporations instead of governments, as we detail in subsequent chapters. This petitioning also has a strong normative component. As Crouch and Maclean (2011: 1, 10) point out, the 'state is [also] being challenged as the leading location for the debate over values', paradoxically at a time when 'neoliberalism as a political strategy rejects the imposition of external social agendas on firms'. The anti-corporate movement, most prominent a decade or so ago, structured its successful opposition around charges of corporate immorality and intransigence (Curran, 2006). CSR's social responsibility storyline offers an attractive counter-narrative to such corporate censure.

One way it does this is through adopting EM's co-benefits ethos. The view here is that while change may be initially painful, committing to CSR's social responsibility strategy would eventually offer corporations considerable financial and reputational gain. EM's own strategies help the corporate sector achieve such gains. By investing in innovation, eco-efficiency and cleaner production, companies would not only save money but would also be showcased as good corporate citizens, which brings its own commercial benefits. The growing environmental literacy of the global consumer means that greener products and processes are attracting a larger market share and the

corporations producing them are afforded increased legitimacy. CSR hence represents the rebranding of corporations as responsible actors in the new sustainability age. Corporations could be either reactive or proactive. Importantly, in choosing the latter, the corporate sector can help shape the sustainability response rather than be shaped by it. In addition, they would not be tied too closely to the apron strings of government.

Environmental governance and regulation

On a more specific level, business is more centrally accommodated in political decision-making through today's 'governance' arrangements – the final layer of the contemporary political economy that we consider here. Political decision-making is today increasingly conceptualised as a shift from 'government' to 'governance'. The notion of governance is important here, since it connotes the different decision-making dynamics that occur in the globalised neo-liberal age – and that go to the heart of the environmental decision-making we interrogate in this book. There is no 'one size fits all' governance approach, since it relies on contingent political arrangements. Nonetheless, as the 'operational' arm of neo-liberalism, the governance approach enjoys extensive global reach.

'Government' refers to governments' more authoritative and directive roles over policy direction and regulation, while 'governance' seeks to activate a partnership model that establishes co-governing arrangements between governments, business and civil society. The governance model acknowledges that each set of actors brings special skills and expertise that together enhance the management of, in our specific case, the environment domain. EM, particularly its political modernisation arm, shows how the political sector, with its considerable and critical resources, could leverage the input of business and society in co-partnering environmental renewal. Jänicke and Lindemann (2010) label this new form of environmental governance 'ecological modernisation' or 'innovation oriented environmental policy'. They consider that it incorporates three key components: a focus on 'strong' environmental innovations; on 'smart regulation' that involves a mix of policy instruments; and on 'addressing the inherent limitations of innovation-oriented policies' (2010: 127–8). Crucially, government continues to play a lead role in ecological modernisation, even as it reaches out to business and the market as partners in 'strong' environmental innovations (2010: 129–35).

Regulation is a critical part of environmental governance. It is also a highly contested area in which debates about its best form – co-regulation, self-regulation or direct regulation – are vigorously fought over, as we observe in all of our case studies. To be effective, environmental regulations need to both manage environmental impacts and encourage environmental innovations. Forms of 'regulatory pluralism' are offered as ways of managing the fraught regulatory contest:

> By giving more responsibilities to a broader set of actors (e.g. environmental organisations and industry associations), regulatory power is therefore being given to those with a greater understanding of the problems, and whose involvement is accordingly essential for the development of successful interventions. (Williamson and Lynch-Wood, 2012: 946)

The discourse and practice of CSR shows how this kind of 'regulatory pluralism' could work.

Ecological modernisation too places regulatory approaches that stimulate environmental innovations at the centre of its ambitions. Indeed a popular view is that 'well-designed regulations – particularly stringent regulations focusing on outcomes – will stimulate technological innovations to the extent that they partially or fully offset firms' compliance costs' (Williamson and Lynch-Wood, 2012: 944; see also Porter and van der Linde, 1995; Mol, 1995). This is a particularly attractive inducement for the corporate sector to invest in the sustainability challenge. But not all businesses are created equally. It is easier to marshal some businesses to the sustainability cause than others, just as it is easier to 'co-govern' in and modernise some areas than others. Different sized businesses and different sectors will also respond differently (see Williamson and Lynch-Wood, 2012). Others will be particularly resistant.

Overall, the contemporary political economy environment provides both significant opportunities and challenges for corporations. Overriding these challenges are the pressures on modern corporations to maintain their legitimacy in an increasingly competitive and transparent market place where brand and reputational integrity can 'make or break' them. Globalisation may have enhanced corporations' power, but it has also empowered civil society actors to keep a check on this power. This is the dynamic that emerges in all of our case studies. Nonetheless, even in today's global political economy, one of government's main roles remains to create an effective policy and regulatory

environment in which business can prosper, and in which society is protected – including from the consequences of *un*sustainability.

Book outline

In developing and supporting its case, the book is divided into two parts. The first part analyses the contemporary sustainability landscape by tracing and conceptualising the emergent discourses of sustainable development, ecological modernisation and corporate social responsibility; and how they have come to dominate the sustainability conversation and sustainability practices today. The second part considers how these practices unfold and interact in several case studies and countries. The contemporary political economy scenarios discussed above have influenced the book's country and case selections. In all of our chosen countries – primarily the United States, Australia and Germany, but also a number of other European countries – we see how the different political and institutional arrangements influence the shape of their sustainability response. Our countries are also a mix of 'liberal' and 'coordinated' market economies as also outlined above. Primarily, however, the arrangements we focus on in our different countries show how the specific interactions that occur there between government, business and civil society in turn condition the forms of EM and CSR that they adopt.

All of the book's case studies sit in the energy domain. Energy is not only the motor of development, but the energy sector is also very powerful in its own right. With climate change demanding a restructuring of energy arrangements that have served industrial development well for close to two centuries, it is no surprise that a fierce energy politics traverses all of our case studies. Yet, if climate change is to be arrested, it is precisely this kind of sectoral restructuring that will be required. As Jänicke and Lindemann conclude:

> Successful [modernisation] strategies will recognise that innovation-oriented environmental policy typically meets the fierce resistance of established producers and will therefore include elements of a 'structural' policy that deals with 'modernisation losers'. (2010: 137)

But it will not come easily. With its very future at stake, the fossil fuel sector – not unexpectedly – is proving particularly resistant. Its politics shape the energy trajectory in our case studies in critical ways. Yet it is precisely these 'modernisation losers' – those industries and sectors

most affected by environmental reform – that governments will need to entice to the modernisation cause.

Chapter 1 starts off at the beginning of the contemporary sustainability story. It first charts the rise of the green movement and its success in raising awareness worldwide of the effects of unrestrained development on both the natural and social environment. Like most movements, the green movement is characterised by much political and philosophical diversity, with vigorous debates between its reformist and radical arms featuring in its early years. Though its reformist current eventually prevailed, this is not to deny the green movement's triumph in catching the eye not only of civil society, but also of governments and businesses across the globe. Taking up the environmental baton, the United Nations then helped launch the discourse of sustainable development, a discourse that, in a few short decades, would go on to capture the environmentalist imagination worldwide. The chapter also traces the business response to sustainable development, observing that, from the outset, business was alert to the prospective challenges that it posed and was not tardy in organising its response.

Part of this response would tap into the discourse of ecological modernisation, but especially that of CSR. Chapter 2 takes up the theory and practice of EM first. While SD successfully outlined the nature of the problem, it was EM that fleshed out its operational specifics. By decoupling environmental degradation from economic development, EM set out to show how SD could in reality be achieved. As we observed earlier, EM's co-benefits norms are arguably its most appealing feature. The proposition that environmental reform could be both a win for business and a win for the environment is particularly attractive, given that we live in a world where environmental awareness raises public expectations of both government and business. EM's overriding message is hence a reassuring one: that neither actor need be daunted by the scale of the challenge. Business has been particularly heartened to hear that the industrial modernisation that was proposed would utilise the very tools of innovation and entrepreneurialism that they hold dear. But, as we also discuss, not all have subscribed to this 'mainstream' form of EM; other ecological modernisers have demanded much more of it. They consider that many environmental problems are socially complex and not always responsive to technological fixes and innovation prompts. However understood, all sides have agreed that governments would need to play a key role in launching and maintaining the modernisation momentum – a momentum that plays out differently, or sometimes not at all, in the countries and cases that we explore.

A second major response to the SD challenge is the discourse and practice of CSR, which Chapter 3 takes up. In a relatively short period, CSR has gone on to become a major feature of the contemporary corporate environment, and indeed an academic sub-discipline in its own right. CSR is both a strategic response to the increased agency afforded the corporate sector in a neo-liberal age, and to the increased social demands made of it in a sustainability era. Globalisation's communication technologies have rendered the world more transparent, making corporate behaviour more closely scrutinised today than ever before. CSR strategies and practices enable corporations to showcase their bona fides in responding to social and environmental pressures, and in assuming their share of the responsibility for redressing them. For many corporations it was considered better to help shape the sustainability response rather than be shaped by it. Accordingly, CSR's sustainability ethos would be underpinned by a commitment to voluntarism (but one that goes 'beyond compliance') and market solutions. But, as we also observe, CSR presents both opportunities and obstacles that corporations cannot control in their entirety. Nor is the shape of CSR a mono-cultural one. Some in the corporate sector advocate a more robust corporate response, arguing that a 'harder' form has the added advantage of protecting them from damaging charges of 'greenwash'.

Part II turns to the case studies. Chapter 4 begins to consider how the politics of EM and CSR play out in the fractious area of climate policy, focusing in particular on the United States and Australia. Here we observe some very different dynamics at play. Surprisingly for some, the Obama administration is travelling down a decidedly EM path in its attempts to achieve its climate objectives. We observe how the resistance to climate reform, mounted by a range of political and industry networks, is constructed around a climate scepticism narrative that seeks to undermine the science of climate change. This has prompted a discursive shift in the United States from climate science to energy security, and the adoption of a modernisation frame to promote its clean energy goals. Australia, by contrast, is undergoing – under the current government at least – a climate 'regression'. The current Coalition Government has recently repealed a successfully implemented carbon tax introduced by its predecessor. This and other environmental decisions taken by the current government seem to signal its intention of stemming the modernisation momentum rather than advancing it. Both countries host a formidable fossil fuel lobby that has played an obstructionist role in climate policy. But while it is easy to lay the blame at the feet of this lobby – and it is indeed an important part of the explanation – it

does not explain climate obstruction in its entirety. The chapter finds that governments are central actors in determining the kind of EM and climate policies that emerge – or otherwise – even against such formidable resistance. So too are civil society actors.

Chapter 5 considers the EM and CSR route in relation to unconventional gas developments. Gas is increasingly promoted as the bridging fuel to a sustainable energy future, hence playing a very important role in climate debates. But the speed and scale of the unconventional gas revolution has caught many unawares, and fostered a highly charged debate about both its social and environmental credentials. After quickly exploring the European response to unconventional gas, the chapter focuses again on the United States and Australia – countries that are undergoing significant gas 'rushes'. Although the scale of the unconventional gas revolution in the United States dwarfs that of Australia, gas mining faces a fierce contestation in both these countries. This contestation is increasingly framed around a central CSR narrative in the mining industry: the social licence to operate. A social licence signifies a company's CSR credentials, and the winning of such a licence confers it much coveted legitimacy. Conversely, an absence of a social licence can do considerable damage to a company's reputation and bottom line. Both proponents and opponents of gas mining embrace the language of social licence, the former to gain legitimacy, the latter to challenge it. Gas mining hence directly tests the mining industry's CSR credentials. With governments often the industry's most enthusiastic advocates, it also tests the political sector's modernisation ones.

The final chapter goes to the heart of energy restructuring and renewal, arguably testing EM and CSR to the fullest. Chapter 6 considers the task of energy transitions, particularly the shift from conventional power generation to renewable energy. Renewable energy is tailor-made for EM's ambitions. Renewables not only challenge fossil fuels' prevailing domination, but also show how ecologically modernised governments can go about creating the policy architecture critical to a successful transition. Much of course is invested in current energy arrangements, for both producers and consumers, and much of the energy debate centres on maintaining the 'holy grail' of energy security and affordability. Proposed changes to the energy mix also come at a time when the global energy appetite is increasing rather than declining. This poses significant challenges. But countries such as Germany have embraced this challenge directly, steered by ecologically modernised governments that seemingly share their citizens' desires to contain the climate problem. Countries such as Australia, however, have proven

more resistant – at this point in time at least. These countries demonstrate well – Germany in its presence and Australia in its absence – the central role that a modernising political sector, in partnership with business and civil society, plays in establishing the political infrastructure of energy transitions, and in confronting the significant challenges that such transitions inevitably pose.

Part I

Theorising Contemporary Sustainability

1
Sustainability Today: From Fringe to Mainstream

Introduction

The green movement is one of the world's most successful social movements. Over a relatively short period, it has succeeded in raising worldwide awareness about the impacts of unchecked development on both nature and humanity. The early days of a seemingly alarmist green fringe warning of impending ecological crisis has been replaced, five decades on, with many people alert to such crisis. Indeed, the growing recognition of environmental problems has seen many former adversaries of environmentalism, including the corporate sector, now embracing it. Many are heartened by this turn of events. Others are more circumspect. 'Success', after all, is a highly fluid term, and many argue that the success the green movement now enjoys has been won at much cost – to both the environment and the movement's social change capacity as a whole. Few would nonetheless disagree that the environment movement has launched a convincing case for a planet in peril that many social actors, including business and governments, have to lesser or greater degrees now heeded. The penetration of the term 'sustainability' into the contemporary global vernacular is testament to this.

But what exactly does sustainability – this shorthand term for *sustainable development* (SD) – mean today? As noted in the introductory chapter, the book contends that the sustainability agenda is today underpinned by two main discourses that fundamentally shape it: *ecological modernisation* (EM) and *corporate social responsibility* (CSR). While SD provides the animating principles of environmental renewal, it is EM and CSR that shape its operational core. Chapters 2 and 3 are devoted to disentangling these two discourses, while this first chapter explores the overarching frame of SD. The chapter begins by charting the rise

of environmental concern, particularly as expressed through the early green movement. It observes that the movement is not monolithic, instead incorporating a diverse range of actors and positions. An exploration of this diversity is important not only in its own right, but also because it continues to condition the character and standing of sustainability today. The chapter then considers the emergence of the idea of SD itself, tracing it from its formal entrance onto the world stage in the 1980s to its evolution and maturity in the international fora organised under its name. We next examine business' more direct engagement with SD through the arrival of corporate environmentalism. In pulling these different sections and strands together, the chapter concludes by considering the subsequent 'mainstreaming' of environmentalism and its articulation as sustainability.

The environment movement

While ecological concerns have a relatively long historical pedigree – from 19th century green romanticism, early wilderness preservation, to Kropotkin's scientific ecology – the green movement emerged in earnest as a global social movement in the 1960s. Standing alongside a raft of new social movements, the green movement came to represent the growing social anxiety about the pace, form and effects of rapid development. But the green movement went further than raising awareness of environmental problems – as important as this was. It was also successful in having environmental issues placed on the political agendas of governments across the globe. This is evident in the quite frenetic environmental policy activity that has come to characterise many of these political agendas over the past few decades – although the quality of this activity remains contentious. Nonetheless, over a relatively short period of time there has been a noticeable proliferation of not only environmental consciousness, but also a range of institutional measures designed to address it. Most governments – especially in the advanced industrial economies – now have well-established environmental management regimes. They are also increasingly cognisant that many of their constituents cast their votes on the strength of a government's environmental record. It is largely because of the green movement's success in highlighting the darker currents of modernity, both ecological and social, that Castells (2004: 72) labels it 'the most comprehensive, influential movement of our times' and Buttel (2003: 99) accords it 'master global social movement' status.

The green movement does not take a singular approach to environmentalism, however. From the start, the movement was split into various ideological divisions and strands. These kinds of divisions are not confined to the green movement of course, with most movements containing a range of political views and strategies that align along some kind of ideological spectrum. The green movement is no different. It has always accommodated its reformist and radical wings, which, in its earlier days, were generally referred to as *mainstream environmentalism* and *radical ecology*. It was not long, however, before the radical ecology wing, which was particularly influential during the movement's early years, was superseded by its more reformist arm. This reformist wing, as we observe below and in the following two chapters, would go on to claim its more influential role through the ambit of EM and CSR.

The earlier divisions between the mainstream and radical arms of the green movement were also conceptualised as distinctions between *environmentalism* and *ecologism* (Dobson, 2000). While both promoted environmental conservation and protection, their proposals for achieving such goals, and their understanding of the causes of *un*sustainability, were very different. A main difference between them centred on the kind of social change required to arrest environmental decline. Mainstream environmentalism sought a reformist path, relying in large part on technological innovation and institutional renewal to do so. It eschewed the sweeping transformation of social values, institutions and industrial practices demanded by its more radical counterpart. Understood this way, mainstream environmentalism adopted 'a managerial approach to the environment within the context of present political and economic practices' (Dobson, 2000: 13). Ecologism instead viewed the environmental crisis as a crisis of values, one whose remedy required radical and extensive social change. Yet, despite these distinctions, the fact remains that what both 'sides' advocated at the time was largely novel and hence comparatively radical.

The publication of Rachel Carson's *Silent Spring* in 1962 is generally considered pivotal to the launch of the green movement. Carson's major contribution was to highlight the close connection between the degradation of the natural world and the degradation of the human one. Her focus on the toxic effects of the pesticide DDT raised widespread awareness of the effects, for both people and the environment, of humanity's interference with nature in the name of untrammelled development. Over the next few years, other influential publications – *The Population Bomb* (Ehrlich, 1968), 'The Tragedy of the Commons' (Hardin, 1968), *The Closing Circle* (Commoner, 1971), *The Limits to Growth* (Meadows

et al., 1972) and *Blueprint for Survival* (Goldsmith et al., 1972) – focused on quite stark doomsday scenarios that portended degrees of societal collapse.

These latter books helped stamp this early phase of the green movement as alarmist, survivalist and authoritarian (see Dryzek, 2005). Many new environmentalists, both mainstream and radical, were decidedly uncomfortable with such views. The impetus was thus to develop an alternative analysis and an alternative worldview. For a time, particularly in the 1970s and early 1980s, the views promoted by radical ecologists captured the social imagination, particularly in their analysis of the link between environmental and social degradation. For many of these radical ecologists, the values that underpinned the capitalist enterprise – such as possessive individualism, materialism, inequality, hierarchy and spiritual impoverishment – were key to environmental ruin. For others, anthropocentrism – humanity's lauded dominion over nature – explained such ruin; while still others identified androcentrism, or dominant masculinist values, as culprit.

In her book *Radical Ecology* Carolyn Merchant (1992: 1) identifies radical ecology's political and intellectual underpinnings. She claims that, fundamentally, radical ecology stems from:

> a sense of crisis in the industrialised world. It acts on a new perception that the domination of nature entails the domination of human beings along lines of race, class, and gender ... It [hence] seeks a new ethic of the nurture of nature and the nurture of people.

Merchant's description highlights radical ecology's core elements: the starting point of a world in both moral and ecological crisis; the identification of domination as complicit in this crisis; the necessity of a new social ecology ethic; and, implicitly, a central role for visionary and spiritually oriented politics. Arguably, radical ecology's most distinctive feature is its 'social ecology': that is, the intimate interrelationship it connotes between humanity and nature. This focus on social ecology distinguishes it most directly from both mainstream environmentalism and the traditional ideological spectrum as a whole (see Carter, 1999).

Timothy O'Riordan (1976) contributes his own distinction between mainstream environmentalism and radical ecology (which he refers to as 'ecocentrism'). Like Merchant before him, O'Riordan highlights ecocentrism's requirement for a fundamental change in values as the key driver of environmental renewal: indeed, ecocentrism 'provides a natural morality – a set of rules ... based upon the limits and obligations

imposed by natural systems ... [to] influence the compass of "progress"' (1976: 10). But, in pre-empting EM's technological focus, it is perhaps his notion of 'technocentrism' that is most interesting. For O'Riordan mainstream environmentalism subscribes to a form of environmental technocentrism which – in the belief that humanity is able to contain and overcome all challenges presented by nature – privileges technocratic and production-side 'fixes' over more holistic solutions (1976: 11).

Other radical ecologists claimed to have gone beyond ideology; or, at least, to have bridged the political spectrum by being 'neither left nor right but green' (see Spretnak and Capra, 1984). This claim seems to have overlooked the marked and intense 'internal spectrum of debate' within the radical ecology arm itself (Eckersley, 1992: 8). In reality, radical ecology's political wings mirrored much of the traditional political spectrum, even as it sought to green it. This was particularly so for radical ecology's eco-socialist, eco-Marxist, eco-feminist and eco-anarchist wings. Each of these neologisms started from a traditional leftist position, especially around core norms of inclusion, distribution and justice. Importantly, however, they each adapted their selected ideology's core principles into a greened ideological matrix which accommodated nature. Only deep ecology stood out as differently constituted, particularly in its non-anthropocentric stance and biocentric leanings.

Radical ecology wings

The key differences between the different radical wings of the green movement centre on two overarching and interconnected themes. First, there is the question of philosophy; of how the humanity/nature relationship should be conceptualised. Second, there is the issue of political and social change strategy; of how to get from an unsustainable here to a sustainable there. Certainly, one of the earliest ideological debates within these developing environmental discourses was between anthropocentrism and biocentrism, especially as encapsulated in the distinctive new school of *deep ecology*. By introducing the topography of environmental ethics, deep ecology represented a novel development that was both idiosyncratic and bold.

On the first question, therefore, deep ecology adopts one of the most distinctive and most radical positions. Its goal is no less than to fundamentally transform the relationship between humanity and nature, stressing humanity's intimate interconnection with, rather than separation from, nature. It takes this relationship a significant step further, however, by seeking to 'equalise' it. It rejects anthropocentrism – the

value that places human beings at the pinnacle of a hierarchy that confers them dominion over nature – and replaces it with the notion of 'biocentrism' or 'biological egalitarianism'. Biocentrism attributes intrinsic rather than instrumental value to nature, and assigns equal value to human and non-human entities alike (Spretnak and Capra, 1984; Naess, 1973; Eckersley, 1992). To this degree, it seeks to implement Aldo Leopold's (1968) insight that human beings are simply ordinary members of the natural world, not 'lord and master' over it. For deep ecologists, only through 'deep' consciousness change, and a new morality that extends such value to nature, can ecological, and hence social crisis, be averted.

Eco-socialists, eco-anarchists and some eco-feminists fundamentally disagree. They reject a radical biocentrism, subscribing instead to a form of ecocentrism that seeks to harmonise, not equalise, the humanity-nature relationship. They find biocentrism a largely misguided position and concept. Eco-socialists and eco-anarchists have been especially strident in their criticism. Eco-socialism in particular defends a humanist politics, claiming that to be human-centred is not the same as being human-chauvinist. Furthermore, it identifies not anthropocentrism but capitalism as the core driver of environmental ruin. Eco-socialists believe that 'consciousness change', while important, only goes so far in transforming the world. To the plethora of injustices capitalism creates, eco-socialists now add the degradation of nature and the class-based maldistribution of this degradation to society's most vulnerable (see Pepper, 1993). But while eco-socialists and deep ecologists argued their cases forcefully, it was the protracted argument between deep ecology and eco-anarchism (particularly in Bookchin's [1980, 1988] social ecology variant) that was the most bitter.

The tension between the different radical ecology wings is also explained by the second theme: the various social and political change strategies they proffer, which in turn resonate their diverse ideological roots. A shared criticism of deep ecology's social change strategy is that it has none; that it is in essence apolitical. Deep ecology's radical roots are considered more philosophical than political. Earth First! – made up of anarchical deep ecologists – stands out from the pack here, especially in their embrace of a direct action anarchical politics. Most deep ecologists, however, take an ambivalent position on capitalism's contribution to environmental degradation. It is often for their refusal to directly condemn capitalism, or at least some of its more visceral elements, that other radicals condemn them.

As we have seen, each of the wings' preferred social change strategies are linked to the ideological traditions from which they spring, even as some meld quite different views together to create distinctive positions. For example, eco-feminism incorporates strands that draw from eco-socialism, deep ecology and eco-anarchism. Eco-feminism's most distinctive position, however, lies in the link it highlights between patriarchy and environmental degradation. It argues that there is a direct link between the domination of women and the domination of nature, explaining this link through its conception of a 'logic of domination' that renders both women and nature as 'other' in a hierarchy of values that places men at the very top:

> Since the exploitation of nature is bound to social processes that oppress people, and since the logic of these systems of domination is modelled on the logic of male domination, neither nature nor women will be liberated without an explicit confrontation with these structures of male domination. (Young, 1983: 175)

It is for this reason that many eco-feminists consider ecologism an important feminist issue.

Eco-feminists are split, however, on the role that anthropocentric values play in such domination, and on the best strategies for overcoming the domination of both women and nature. While acknowledging links between the exploitation of women and nature, social eco-feminists, whose ideological alignment is socialist or social democratic, incorporate social, political and economic factors more directly in their analysis of domination. They reject what they see as the biological reductionism of cultural eco-feminism and remain uncomfortable with an uncircumscribed biocentrism. Nor do they subscribe to a patriarchal reductionism. Instead, they view 'the threads of gender as interwoven with those of class, race and species' (Plumwood, 1992: 10). But what they all agree on is the vacuity of liberal feminism. Not only does liberal feminism perceive the issue of domination very narrowly, but it also conceives of 'liberation' and 'empowerment' in masculinist terms. Liberal feminists seek, in short, to admit women to a bankrupt system rather than to change it. As one eco-feminist asks, '[w]hat is the point of partaking equally in a system that is killing us all?' (King, 1990: 106).

As would be expected, eco-anarchism takes a very specific anti-statist stance. Bookchin's social ecology locates the exploitation of nature in the same logic of domination that fuels a hierarchical society. He believes that the propensity to dominate nature arises from the same

propensity that drives human domination: 'the very concept of dominating nature stems from the domination of human by human, indeed, of women by men, of the young by their elders, of one ethnic group by another, of society by the state, of the individual by bureaucracy, as well as of one economic class by another' (Bookchin, 1980: 76). Capitalism may be a key driver of social and environmental ruin, but for social ecologists so too is hierarchy. And since the state is the acme of hierarchy it cannot be called upon to assist the environmental renewal effort. For eco-anarchists, it is hierarchy more so than capitalism that explains why in so-called 'socialist systems' such as the former USSR, environmental degradation also prevailed.

These radical ecology debates have now largely subsided, or are contained to the 'fringes' of the green movement. But radical ecology's influence on environmentalism is not entirely spent. Most environmentalists today incorporate at least some of its ideas and values, even as a mainstream environmentalism prevails. As perhaps one of the most recent examples, the Earth Jurisprudence Movement in 2015 unashamedly incorporates deep ecology values into its environmentalist script:

> Earth Jurisprudence or Earth law recognises Earth as the primary source of law which sets human law in a context which is wider than humanity. This is to say that human law should be derived from the laws which govern life – it is secondary to Earth law. (The Gaia Foundation, 2015)

There are also numerous environmental actors who self-identify as deep ecologists, eco-socialists, eco-anarchists and eco-feminists in a range of more recent movements, such as the influential anti-globalisation and global justice movements (see Curran, 2006). Many of these actors are determined to keep ecologism's radical heart beating, especially in the face of what they consider the corporate assault on the environment.

But aside from the significant ideological tensions we have identified above, all radical ecologists agree that mainstream environmentalism neither accurately diagnoses the source of environmental degradation nor proposes effective responses to it. They also agree that the green movement's success had been won at the expense of some of its core values. In seeking to contain the negative effects of industrialism rather than to seriously transform it, the belief is that mainstream reformists are simply tinkering at the edges of social change rather than

confronting it. For radical ecologists, the 'mainstreaming' of contemporary sustainability has been guided by the discourses of sustainable development and the more recent ones of EM and CSR. To the degree that these discourses are now dominant, mainstream environmentalism has emerged 'triumphant' over its former rivals.

Unlike what radical ecologists may charge or infer, however, mainstream environmentalists did not propose a uniform reform program. Instead, their approaches also differed considerably, with some looking to strong regulatory and interventionist governments taking the lead, while others preferred to hand this lead to the market and business. What they shared, however, was the goal of ecologically reforming the state and economy rather than seeking their transformation. To this end, they allocated economic reform and technological innovation to the centre of environmental renewal, and the utilisation of specific readings of sustainable development to assist this task. Others – from both mainstream and more radical wings of the movement – pressed the necessity of penetrating the formal political domain; hence, the allied environmental success story of green political parties.

Green parties

Carrying the environmentalism torch, green parties have risen to considerable prominence throughout the world over the past few decades (see Carter, 2007: 88–91). The first green parties emerged in Tasmania, Australia and New Zealand in the early 1970s. In the ensuing decades, green parties have gone on to be influential electoral players in many countries – even if this electoral experience has differed considerably. According to the Global Greens (2015a), green parties now have a significant presence in many countries worldwide, at regional, national and local levels. Their electoral success depends on a range of factors specific to their locale. However, there is a strong link between green political party success and proportional representation electoral systems; conversely, poorer electoral outcomes tend to occur in majoritarian systems.

In 2001, and updated in 2012, green parties around the world adopted a 'Global Greens Charter' which outlined the core principles they each subscribed to. These included ecological wisdom, social justice, participatory democracy, non-violence, sustainability and respect for diversity (Global Greens, 2015b). The charter recognised that the achievement of sustainability relied on attending to the 'needs of present and future generations within the finite resources of the earth'; this in turn required that poverty be eliminated and that the 'continuing growth in

global consumption, population and material inequity … be halted and reversed' (2015b). The processes that could be applied to achieve these sustainability goals include:

- ensuring that the rich limit their consumption to allow the poor their fair share of the earth's resources;
- redefining the roles and responsibilities of transnational corporations in order to support the principles of sustainable development;
- achieving greater resource and energy efficiency and development and use of environmentally sustainable technologies. (2015b)

Most agree that the German Greens (*Die Grunen*) spearheaded the green political party model (see Rüdig, 2012). Facilitated by Germany's proportional electoral system, the German Greens Party first won seats in state parliaments in 1979 and entered the Federal Parliament in 1983. Over the past two decades the party has held some prominent positions – including their governing coalition with the Social Democratic Party from 1998 to 2005. The European Greens have also gained an increasingly influential role in the European Parliament. The German Greens' overall success in winning numerous seats in both lower and upper houses of Parliament has been conceptualised as 'the parliamentary embrace'; and their shared governing experience, 'the coalition embrace' (Carter, 2013: 75; see also Knill et al., 2010; Jensen and Spoon, 2011). This parliamentary and coalition 'embrace' has extended to a range of other countries. In Australia, for example, the Tasmanian Greens held five of the twenty-five seats in the Tasmanian Assembly from 2010 to 2014, with each of the two major parties holding ten. In return for their support of the Tasmanian Labor Party, two Greens MPs held ministerial positions. Over time, the Australian Greens have also held balance of power positions in both state and federal upper houses. Very recently, as we discuss in a subsequent chapter, the Greens' position in the Federal Parliament helped to launch Australia's (albeit short-lived) carbon tax.

Despite these green party-based successes, there has been considerable discomfort among many green movement participants and supporters with the role that green political parties play in the quest for a sustainable society. This discomfort goes to the underpinning question of how best to achieve social change (see Hopwood et al., 2005). As we saw, social movements and their civil society actors commonly function on the outside of the formal political arena, exerting external pressure from the outside in. Maintaining an external presence is considered critical to the avoidance of state capture and the dilution of principles and goals

that can accompany it. Conversely, others argue that social change is best executed from the inside of the formal political arena, since access to the levers of institutional power is a necessary condition of social change.

The German Greens Party was very much caught up in these strategic tensions. It was riven factionally between the 'realos' and 'fundis' from the outset. The 'realos' were mainstream environmentalist realists, or pragmatists, who accepted that reform would be incremental, building gradually from compromise and negotiation with other political actors. The 'fundis' or fundamentalists, on the other hand, were less compromising. Inspired by elements of radical ecology analysis, they remained suspicious of statist institutions even as they joined them. As Carter (2007: 118) observes, the fundis sought to protect an 'anti-party party' model that saw itself as an 'alternative kind of party that would resist oligarchical tendencies and the corrupting temptations of the parliamentary arena'. Even if conceived and articulated differently, this tension continues to percolate through many green parties today. Accolades for, or criticisms of, these parties are often levelled in direct proportion to whether they participate in the compromise and reform culture that characterises most deliberative parliamentary systems today, or whether they continue to take uncompromising stands on issues of principle. However, all environmental actors, whether in the formal political arena or not, engage with the goals of SD.

Sustainable development

The emergence of sustainable development (SD) on the world stage over 30 years ago was a significant historical event. The criticism that SD assisted the mainstreaming and dilution of environmentalism cannot deny the fact that it made an unprecedented global contribution to environmentalism, and that the green movement succeeded in getting its message to the world through the idea of SD. More than this, SD articulated a clear link between social processes and environmental degradation, including the impact of global inequality on sustainability. To this degree, if robustly applied, SD had the capacity to be significantly transformative. While its trajectory may tell a different story, the force of its originating narrative cannot be overlooked.

The launch of sustainable development

The idea of SD arrived officially on the world stage in 1987 with the release of the World Commission on Environment and Development's

Report – 'Our Common Future' – authored by a committee chaired by Gro Harlem Brundtland, then prime minister of Norway, and commonly referred to as the Brundtland Report (WCED, 1987). While the report's launch formalised the idea, SD had long underpinned the issues and debates that energised the green movement, as we saw in the previous section. Importantly, however, the Brundtland Report captured the environmental problématique succinctly and named it. By providing a definition and a description of what SD meant, the WCED – a reputable global institution – both popularised the term and endowed it with respectability. This respectability was reinforced by the notion's extensive global reach and its subsequent endorsement by many governments across the world, particularly at the ensuing Earth Summit in Rio di Janeiro in 1992. The 'Rio Declaration on Environment and Development', and the associated action plan – 'Agenda 21: a Blueprint for Action for Global Sustainable Development in the 21st Century' – was testimony to this (see Lafferty and Meadowcroft, 2000; WCED, 1987).

The term 'sustainable development' was first officially endorsed in 1980 by the International Union for the Conservation of Nature, the United Nations Environment Programme and the World Wide Fund for Nature in their joint 'World Conservation Strategy' which defined it as 'the sustainable utilisation of species and ecosystems' (IUCNNR, 1980). It was also derived from the resource management domain through the notion of 'sustainable yield' – understood as the maximum output (e.g., of fisheries or forests) before an ecosystem becomes degraded. But it had made an appearance as early as 1972 when the Stockholm Conference put environment and development issues on the global agenda. Importantly, the Stockholm Conference observed that the environmentalism that was then emerging in the richer developed world was seemingly unsympathetic to the poorer countries' development needs. A globally coordinated response was thus required. For the first time, government officials from both developed and developing countries, along with a significant number of non-governmental organisations (NGOs), came together to discuss the links between environment and development. Chairperson Maurice Strong's (1972) opening conference statement was quite far-sighted, even tapping into some radical ecology insights: 'Man (sic) is unlikely to succeed in managing his (sic) relationship with nature unless in the course of it he learns to manage better the relations between man and man'. From this conference was born the United Nations Environment Programme (UNEP) which would go on to be instrumental in the global SD effort.

Issues of pedigree aside, the most notable characteristic of the concept of SD was its capacity, from the outset, to cut through the clutter of environmental issues, debates and controversies through tendering a simple proposition: that sustainability and development needed to be and could be integrated. This was essentially the World Commission's key objective: to find a way through the sometimes bitter debates at the time between those promoting limits to growth and those championing business as usual. In addition, SD so conceived responded to the claims of many in the post-colonialist developing world who looked with suspicion on environmentalist attempts to deny them the growth routes that had so enriched the developed world. As Dryzek (2005: 143) asks, in the face of the significant tensions that divided the green movement and the developing and developed world, 'what could possibly combine ecological protection, economic growth, social justice, and intergenerational equity … globally and in perpetuity'? SD claimed not only to do just this, but also to do it without having to make too many painful compromises. The promise that we could 'have it all' – sustainability and development – underpinned the seductive power of the concept and its ultimate embrace (2005: 143).

Definitional ambiguity

The Brundtland Report defines sustainable development as development that

> meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization in the environment's ability to meet present and future needs. (WCED, 1987: 263)

This is, of course, a very general characterisation of what SD means. The concept of 'needs' and how they were to be measured laid the groundwork for considerable disagreement and dispute about precisely how this notion was to be understood and applied. Not surprisingly, the generality of Brundtland's definition of SD spawned multiple interpretations. The meaning ascribed to sustainable development depends largely on the actors and their goals. Business may put emphasis on the development part of the equation, environmentalists on its ecology and governments on the pragmatic collaboration between the two.

Some claim that such generality was in any case the strategic intent. Jordan (2008: 18), for example, contends that the Brundtland Report set out to 'present sustainable development in only the most "general terms" – more as a set of guiding (and in practice often highly contradictory) principles and values than as a clearly defined blueprint'. Interpretations of SD's generality vary, from those who claim it as SD's key weakness, to others who identify it as a democratic strength. As Jordan (2008: 18) concludes, if 'there is to be no centrally determined blueprint for sustainable development, its practical meaning will necessarily have to emerge out of an interactive *process* of social dialogue and reflection'.

Despite these definitional differences, the term alludes to key concerns which many environmental actors have long contended are central to the environmental conversation. These include the notions of justice and equity (particularly duties owed to the world's poor, as well as to present and future generations); and the notion of limitations (to business as usual development). The appeal to meeting the needs of the world's poor was an important advance, rendering the achievement of SD a necessarily global project. This global focus reinforced the main insights of the 1972 Stockholm Conference: that environmental issues were as much about social processes, and the relationship between different members of the human community, as they were about ecological ones.

The generality of Brundtland's SD's definition rendered it more of a normative concept than an action plan – although, as we discuss below, subsequent international fora established very specific environmental plans. But even this loose definition offered a way forward in the seemingly intractable conflict between environment and development. As a discourse, SD is very appealing. On the one hand, who would not be for sustainable development? Most would find it hard to deny a form of development that raised the world's poor from their desperate straits, while protecting the environment. Most would also likely support a fairer distribution of material abundance rather than its elimination. On the other hand, SD's generality meant that it could be made to mean whatever one wished it to mean. This is reflected in the myriad definitions of SD that have emerged over the past two or three decades (see Dryzek, 2005; Jordan, 2008). Even so, SD quickly assumed global status so that by the early 1990s 'public discussion concerning the environment has become primarily a discourse of sustainability' (Torgerson, 1995: 10). Many found its definitional imprecision concerning, even dangerous when encapsulated as a 'discourse of hegemony' (Carruthers,

2001). Nonetheless, SD's combining of a range of ecological and social issues into a systematic and coherent account represented an important historical point in the evolution of environmentalism.

SD's major appeal was that it spoke to most corners of the world. It acknowledged the developing world's distress, promising to foster a 'new era' of economic growth that ensured that the development required to lift countries out of poverty did not come at the expense of social and environmental degradation. Indeed,

> sustainable development requires meeting the basic needs of all ... Meeting essential needs requires not only a new era of economic growth in nations in which the majority are poor, but an assurance that those poor get their fair share of the resources required to sustain that growth.

For the developed world, it had another message:

> Sustainable global development requires that those who are more affluent adopt lifestyles within the planet's ecological means – in their use of energy, for example. (WCED, 1987: 264–5)

This was not an attack on the developed world's wealth and lifestyle; rather, it was a recognition that these lifestyles need to be tempered by the requirements of ecological balance. The emphasis was not on the content of these lifestyles but on their production and delivery. Indeed, one of the criticisms of the Brundtland Report was its relative silence on issues of consumption (see Meadowcroft, 2000: 379).

Another important element of the Brundtland Commission's work on SD was its consideration of limits. The report was careful to avoid the notion of absolute limits. Rather, it referred to 'limitations imposed by the present state of technology and social organisation on environmental resources and by the ability of the biosphere to absorb the effects of human activities' (WCED, 1987: 264). This raised the chagrin of environmental 'survivalists', and some radical ecologists, who emphasised absolute limits and, in some cases, an end to economic growth since it was incompatible with ecological limits (see Commoner, 1971; Goldsmith et al., 1972). The World Commission instead advocated changing the 'character' of economic growth so that it used fewer materials and was less energy intensive. The championing of (sustainable) economic growth was considered necessary if it was to achieve its associated objectives of poverty reduction and a fairer world. Its emphasis

was thus on human welfare – much to the chagrin of deep ecologists disturbed by its flagrant anthropocentrism.

A final core element of SD was the central role it ascribed the political sector (see Jordan, 2008). While debate raged about SD's core meaning, the Brundtland Report highlighted the 'institutional gaps' that needed to be addressed in order to achieve SD. Political institutions that were 'established on the basis of narrow preoccupations and compartmentalized concerns' were identified as those requiring the most significant reform:

> Most of the institutions ... managing natural resources and protecting the environment are institutionally separated from those responsible for managing the economy. The real world of interlocked economic and ecological systems will not change; the policies and institutions concerned must. (WCED, 1987: 265)

To assist with this task, the Organization for Economic Cooperation and Development (OECD, 2002) provided a checklist for 'improving the policy coherence and integration of sustainable development'. This checklist encouraged the development of 'a common understanding of sustainable development' to make it operationally clear; 'clear commitment and leadership', particularly at the highest levels of government; 'specific institutional mechanisms to steer integration' in and across all agencies; 'effective stakeholder involvement' underpinned by effective mechanisms and transparent guidelines; and 'efficient knowledge management' to ensure effective public communication of complex information (OECD, 2002).

The World Commission did not expect such institutional reform to be easy. Instead, they acknowledged that the sustainable development task was one that was far from politically straightforward and would require '[p]ainful choices to be made' (WCED, 1987: 265). But the commission stressed that 'in the final analysis, sustainable development must rest on political will', particularly the will to ensure that the 'bodies whose policy actions degrade the environment [are made] responsible ... to prevent that degradation' (1987: 263). Hence, to the 'triple bottom line' of sustainable development – economic, social and ecological – the Brundtland Report added a political fourth, highlighting the criticality of political will or political leadership as a core driver of sustainability. The ensuing international conferences – the Earth Summits – began the complex task of specifying the forms this political modernisation could take.

Action planning: the earth summits

The United Nations Conference on Environment and Development in Rio di Janeiro in 1992 was attended by almost 200 governments and a large number of businesses, NGOs and community groups. It was the first dedicated global forum to directly pursue sustainable development. To considerable fanfare, the Rio 'Earth Summit' reinforced the centrality of the SD concept to the concerns of environment and development, and initiated a wide-ranging discussion about how it could be understood and applied. Acknowledging its antecedents in the Stockholm Conference, the summit launched the Rio Declaration, reaffirming its commitment to

> establishing a new and equitable global partnership through the creation of new levels of cooperation among States, key sectors of societies and people ... [to] protect the integrity of the global environmental and developmental system. (UNEP, 1992a)

This commitment was buttressed by 27 principles, which included reinforcement of the human welfare ethos; respect for the decision-making autonomy of sovereign states; the centrality of development, sustainably executed; the adoption of precautionary norms; the criticality of global cooperation and the development of effective institutions and laws. Conceptualised as an 'earth charter', and viewed by many as tantamount to an environmental declaration of human rights, the Rio Declaration's Principle 27 entreated

> States and people [to] cooperate in good faith and in a spirit of partnership in the fulfilment of the principles embodied in this Declaration and in the further development of international law in the field of sustainable development. (UNEP, 1992a)

Importantly, the summit also launched an action plan premised on SD: Agenda 21 (UNEP, 1992b). Agenda 21, a comprehensive environmental plan to be executed at local, national and international levels, was unprecedented in its scope and reach. Its Preamble states that

> Agenda 21 addresses the pressing problems of today and also aims at preparing the world for the challenges of the next century. It reflects a global consensus and political commitment at the highest level on development and environment cooperation. Its

> successful implementation is first and foremost the responsibility of Governments.

Through the involvement of diverse stakeholders, including business, and with the cooperation and coordination of governments and their agencies, this action plan aimed to put the world on the practical path towards sustainability. Containing 40 chapters, its scope incorporated a vast set of environmental policy goals, including plans for the necessary alleviation of global poverty. Perhaps more controversially, it suggested that eco-systemic decline was driven by the profligate consumption and production habits of the richer developed countries, even as – perhaps paradoxically – it recommended more not less economic growth (see Dryzek, 2005: 149). Importantly, however, it also suggested that the character of growth needed to change substantially.

The 1992 Earth Summit also led to the establishment of a number of important principles and conventions, particularly the United Nations Framework Convention on Climate Change (UNFCCC), the Biodiversity Convention and the Statement of Forest Principles. These conventions were considered essential starting points for a global conversation that it was hoped would one day result in binding legislative agreements. Capturing significant media attention over the years, the UNFCCC has had an active, if very bumpy, trajectory. This ranges from its trumpeted success in formulating the Kyoto Protocol, to the global disappointment generated by the failure to achieve a meaningful agreement in Copenhagen in 2009, to the high hopes now held out for a global climate agreement in 2016.

In 1993 a Commission on Sustainable Development was established to monitor and review the objectives of the Earth Summit. It was also agreed that, in order to advance its goals and monitor progress, these summits would take place regularly. The next Earth Summit +5 took place in New York in 1997. Although all agreed that some gains had been made, the United Nations General Assembly acknowledged that, on most measures, environmental degradation had worsened and poverty levels had risen. They concluded that while '[g]lobal catastrophe is not imminent' and some measures had improved, at this disappointingly slow rate of progress 'business-as-usual is not likely to result in sustainable development – that is, a desirable balance of economic growth, equitable human development and healthy, productive ecosystems' (UN, 1997). It was hence clear that much work remained to be done if the world was to recoup the steep climb to SD. An important associated 'goals project' was launched in 2000: the

United Nations Millennium Development Goals Project. Supported by international NGOs and many businesses, 192 UN member states pledged to achieve 8 specific development goals by 2015. These clearly ambitious goals were to:

- Eradicate extreme poverty and hunger
- Achieve universal primary education
- Promote gender equality and empower women
- Reduce child mortality rates
- Improve maternal health
- Combat HIV/AIDs, malaria and other diseases
- Ensure environmental sustainability
- Develop a global partnership for development. (UN, 2000)

The hope was that the next scheduled meeting, Rio+10 in Johannesburg in 2002, would showcase much needed progress. Rio+10 was well attended (if not by the United States), but it reported that progress was slow. One of its more notable achievements was the Johannesburg Plan of Implementation which aimed to strengthen the efficacy of Agenda 21. The most recent forum, Rio+20 in 2012, celebrated the summits' 20 year anniversary, despite many not classifying it as a celebratory event. In its assessment document, 'Our Common Vision', the United Nations admitted the continued frustratingly slow pace of progress towards achieving SD and related millennium goals:

> We acknowledge that since 1992 there have been areas of insufficient progress and setbacks in the integration of the three dimensions of sustainable development, aggravated by multiple financial, economic, food and energy crises, which have threatened the ability of all countries, in particular developing countries, to achieve sustainable development. (UN, 2012)

In its own overview of the summit, and the assessment document, the World Wildlife Fund noted that 'Our Common Vision' 'regrettably lacks the visionary leadership and commitments the world urgently needs' (WWF, 2012: 1). It did observe, however, that 'the first global common understanding of what green economies are or should look like' represented a considerable step forward. Nonetheless, while the 'Green Economy' section 'identifies key issues and interlinkages' which recognise 'the importance or policy aims of a green economy', critically 'it does not include any concrete commitments' (WWF, 2012: 1).

This lack of binding commitments has beleaguered the now decades of SD fora, summits and in-principle agreements. For many, the latest RIO+20 Summit represents the culmination of incrementally diminishing progress towards achieving SD goals since the landmark meeting in 1992. Some critics go further. Even before the latest summit, Death (2011) concluded that these summits, or 'landmarks of environmental governance', are simply 'moments of political theatre' which present 'ecology as spectacle' (see also Doran, 1993). They foster the impression that much is being done to arrest environmental decline when in fact the opposite is true (Death, 2011: 1–2). These summits serve a main strategic function: to communicate to half-attentive global audiences that political and corporate elites the world over are giving environmental concerns the attention they deserve. In actual fact, the summits are detrimental to the SD effort. Resonating some radical ecology critique, these critics argue that, aside from not examining the power relations that contribute to environmental decline, these summits sideline 'more democratic and collective forms of politics' and steer 'political participation towards norms of consensus and cooperation' that can ultimately diminish serious remedial efforts (2011: 2). Also using the language of 'spectacle', van Alstine et al. (2013) reach similar conclusions. They observe that while the first Rio Earth Summit 'certainly shifted language and led to attempts to integrate environmental concerns into economic and social policy', its successor 20 years later was 'little more than spectacle', failing to ignite the necessary economic conversation, 'even in the midst of a system-wide crisis' (2013: 338). One of the reasons proffered for this was the business sector's success in transforming the SD debate into a form they could contain and subscribe to – indeed, even lead.

Business and sustainable development

The corporate sector's increasing involvement in environmental governance is an important part of the SD story – one that we take up more fully in subsequent chapters. Sensing a potential threat, business was involved with the SD agenda from the outset, engaging early and actively. Prior to this time, business had been circumspect about the growth of the green movement and generally resistant to its goal of transforming the prevailing industrial model. The corporate sector's engagement with environmentalism was hence a notable development. It was largely from this impetus that EM and CSR were born. As Dryzek (2005: 149–50) contends, '[p]erhaps the most successful discursive repositioning [of environmentalism] was accompanied by the corporations

present', particularly at the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002, which 'confirmed the status of business as a major participant in sustainable development, not a source of problems to be overcome'. Furthermore, the active role that business would go on to play in the SD and environmental reform agendas 'was solidified in partnerships involving business, governments, and NGOs, several hundred of which were established at the WSSD' (Dryzek, 2005: 150).

This involvement goes back even further, however – to the inaugural 1992 Earth Summit. Alert to the growing awareness of environmental issues, and to the challenge this posed to business autonomy, the World Business Council for Sustainable Development (WBCSD) was formed at the Rio Earth Summit in 1992 to both counter negative views of business and play an active role in shaping the character of SD. Many welcomed this involvement since business was clearly central to the SD task. But the character of its involvement, and the positions it promoted, were also critical to the shape that SD would assume going forward. In essence, the overarching corporate view was that market mechanisms, preferably unimpeded, were the optimal drivers of SD. Critics charge that in reality business sought to staunch the SD momentum rather than advance it: the Convention on Biological Diversity, for example, 'was much more about deciding who was to have the right to exploit living nature than protecting the earth's biodiversity'. The UNFCCC and later, the Kyoto Protocol, 'was resisted by the United States and other countries because of its attacks on the auto-petroleum economy'; and the Statement of Forest Principles 'never mentioned the problem of deforestation in its "forest principles"' (Foster, 2003). Nor did any of the 40 chapters of the notable policy document Agenda 21 outline the specific sustainability role that the corporate sector should play beyond its championing of a sustainable global economy (2003). As Chatterjee and Finger (1994: 116) observe: 'The only mention of corporations in Agenda 21 was to promote their role in sustainable development. No mention was made of corporations' role in the pollution of the planet'. Hence, while business wished to be involved in the SD agenda, it did not wish to be too specific in its commitments and preferred to develop its own more direct corporate response, which would eventually take the form of CSR.

The WBCSD's participation in subsequent Earth Summits reinforced the corporate sector's strong developmentalist stance. Its overriding commitment was to advance the view that '[e]conomic growth in all parts of the world is essential to improve the livelihoods of the poor, to sustain growing populations, and eventually to stabilize population levels' (in

Dryzek, 2005: 147). As a global association of now nearly 200 major corporations, the WBCSD actively continues the work it began in 1992. The WBCSD (2012) describes itself as 'a CEO-led organization of forward-thinking companies that galvanizes the global business community to create a sustainable future for business, society and the environment'. Its formal role in Rio in 1992 was dedicated to ensuring that business had a strong voice in the SD drive. From the outset, the WBCSD adopted the strategic 'win-win' logic that would go on to more formally characterise the discourses of EM and CSR. As the WBCSD states, the council was formed in the belief that business had both 'an inescapable role to play in sustainable development' as well as it being in the 'interest of business and its bottom line, to do so'; in this way an 'accommodationist' council could then showcase the way business could 'achieve environmental protection coupled with economic growth' (WBCSD, 2012). To this end, the council has been successful in injecting corporate business to the centre of environmental governance throughout the globe. While this makes much sense in light of the key role that business plays in an industrial society, critics are more circumspect, presenting it as a colonisation of the SD agenda rather than its promotion.

In his assessment of the outcomes of the World Strategy on SD in 2002, von Frantzius (2004: 469) argues, for example, that the partnerships approach strongly promoted by business during the summit 'was feared by civil society to lead to undue influence of the business sector in drafting the latest global blueprint for global sustainable development'. While partnerships are clearly important, an undue emphasis on their establishment 'threatens to mask the failure of governments to agree on meaningful action' which could 'result in the "privatisation of sustainable development"' (2004: 469; see also Blühdorn, 2007; Blühdorn and Welsh, 2007). Furthermore, while partnerships are useful for the implementation of SD, they do not necessarily 'cover the primary Summit mandate for governments to agree to action-oriented, time-bound measures' that will effectively address environmental and social decline (von Frantzius, 2004: 469). One of the ways in which business exercises its influence in the 'privatisation of sustainable development' is through the promotion of policy instruments that are underpinned by neo-liberal corporate autonomy norms – norms which enjoy widespread business support.

Policy instruments for SD

Sustainable development's emergence coincided with that of neo-liberalism. As we saw in the book's Introduction, the political economy

backdrop of neo-liberalism influenced SD's character in important ways. This influence helps explain SD's trajectory, the corporate sector's engagement with it and the kinds of policy instruments promoted as best able to achieve it. Policy instruments are often categorised into four main types: 'regulation, voluntary action, government expenditure and market based instruments' (Carter, 2007: 322). Generally speaking, there has been a shift from government-oriented regulation in the environment domain to a more voluntarist and self- or co-regulatory approach, often underpinned by a range of market-based instruments. This is consistent with the ideological content of a neo-liberal age which champions corporate autonomy, voluntarism and self-regulation. Yet governments are far from powerless in this neo-liberal age – and continue to exercise considerable regulatory muscle. In reality it is difficult for business to be autonomous of government, and even self-regulation relies on the established legislative and regulatory infrastructure provided by governments. Nonetheless, even with this proviso, corporate business can exercise substantial decision-making over preferred policy instruments and their content. As Carter (2007: 322) points out, 'the choice of policy instrument is only partly a technical matter of selecting the policy instrument that offers the most efficient or effective means of delivering policy objectives'; rather, these instruments are in themselves highly political in that they reflect the specific, usually commercial, interests of the business actors involved.

However understood, the regulatory landscape is critical to the SD enterprise. Regulation can be understood as 'a process by which government induces, requires or prohibits certain actions' (Gow, 1997: 102); it is hence 'a public activity primarily undertaken by governments, but also by other formal institutions, to shape behaviour' (Hollander, 2007: 70). Environmental regulations often establish targets and limits on pollution and other negative activities, and through the establishment of monitoring and enforcement processes, seek to ensure that those targets and limits are adhered to. During neo-liberalism's ascendancy regulation was increasingly cast, and condemned, as a 'command and control' mechanism that retarded rather than advanced the economy. In many ways, the corporate sector's promotion of this term acted as a deliberate and successful rhetorical device which pitted the 'freedom' of the market against government's regulatory 'coercion'; in reality, 'regulations are rarely applied in a coercive way, so "command and control" is a misnomer' (Carter, 2007: 324).

The critique of regulation generally falls into three main categories (Hollander, 2007). First there is the ideological case which, consistent

with market liberalism, proposes that (relatively) unimpeded markets work best, and business is best placed to make decisions about its operation. In short, markets and business function most optimally when minimally impeded and directed. This view links to the second proposition: that business' intrinsic and commercial impulse to innovate is stifled by undue government interference and control. Not only are 'command and control' tools characterised as unfair regulatory imposts on already over-burdened businesses, but the regulations can also stifle innovation and entrepreneurship. The third, more theoretical case, proposes that less regulation means more efficient pricing and hence more effective outcomes. These views tap into the contemporary era of self- and co-regulation approaches which have found a comfortable home in the corporate environmentalist domain.

Market-based instruments are the tools of choice for many corporate environmentalists. They are considered to offer significant promise, primarily through their utilisation of the price signal to drive both innovation and behavioural change (see Lemos and Agrawal, 2006). Arguments in their defence are two-pronged; the first contends that pricing works by internalising 'into the price of a good or product the external costs to the environment of producing and using it' (Carter, 2007: 332); and the second, that the privatisation of many common environmental goods leads to their better management. The 'polluter pays' principle exemplifies this approach, as do a variety of emissions trading schemes and environmental and carbon taxes. Major world bodies – such as the OECD, the World Bank and the European Union – have consistently promoted the use of such instruments (see OECD, 2004 in Carter, 2007: 335). Nonetheless, despite the extensive championing of these instruments, and their widespread endorsement, their roll out is less than might be imagined (Dryzek, 2005: 122). Part of the reason for this, as Carter (2007: 335) points out, is that their support, and the analysis that underpins them, is often 'idealised' and theoretical; on the ground they often experience significant application and implementation problems, and their effective operation often requires the kind of regulatory infrastructure only governments can provide. We observe some of these dynamics in our ensuing case study chapters.

It is perhaps the more dedicated trend towards voluntary initiatives, collaborative partnerships and co- or self-regulation, loosely encapsulated under the umbrella of 'shared responsibilities', that marks out a significant change of approach to SD goals – an approach increasingly embraced by the corporate sector and endorsed by SD's 'collaboration' discourse. These voluntarist arrangements share a number of

features: they represent a shift away 'from traditional state-led regimes'; involve 'public and private sector stakeholders in rule making and rule implementation'; encourage 'more collaborative policy processes'; and promote 'governance instruments that are less rigid, less prescriptive, less committed to uniform outcomes, foster experimentation, and are less hierarchical in nature' (van der Heijden, 2012: 486). Zaccai (2012: 83) observes that since these voluntary initiatives are more flexible than regulatory or market tools in the kinds of commitments they require, they are increasingly promoted 'in sustainable development discourse, where all relevant actors are called to play distinct roles in ways that can be innovative and adapted to different contexts'.

This 'shared responsibility' approach presents considerable advantages to business enterprises that value their autonomy and flexibility. Nonetheless, the debate around the effectiveness of such approaches for achieving sustainability goals is not settled and remains contentious (see Spaargaren and Mol, 2013; Stavins, 2002; Bakker, 2005). In a recent review of the relevant literature, van der Heijden (2012: 504) concludes that there is limited empirical evidence on the impacts and outcomes of these voluntary arrangements and instruments; indeed, 'the literature remains relatively undiscerning in terms of specifying whether or not [voluntary environmental governance arrangements] make effective alternatives or complements to environmental legislation in addressing contemporary environmental risks'. This is partly because a 'one size fits all' approach is not always possible or optimal, with different environmental problems requiring different approaches, or a combination of approaches. The reality is that each type of instrument or set of arrangements has its own advantages and disadvantages, and will often work more effectively in some sectors, and with some problems, than others. In any case, policy instruments rarely operate in isolation; they are much more likely to function alongside other types of instruments and decision-making arrangements.

In many ways, the debate about policy instruments that occupies so much of the SD discourse presents a false dichotomy of regulation versus market instruments when in reality they often operate in tandem. Emissions trading policy is a case in point. Commenting on Australia's development of an emissions trading scheme (ETS) a prominent Australian economist observed that an ETS is 'a new *market*, established by *Government* decree. The emissions rights that are traded have value only because of the *coercive powers* of Government' (Garnaut, 2008; emphasis added). Business relies on the institutional powers of government to ensure that its interests are both respected and met.

Yet the overall preference for market-based instruments, and a range of voluntary initiatives, relies on the view that they are, on their own, singularly and uniformly more efficient, effective and cost-competitive in achieving environmental outcomes – a view that the evidence does not always necessarily support.

Implementing SD

Before concluding the chapter it is important that our analysis and critique of SD does not overlook the significant environmental governance developments that have occurred under its name, especially in institution building and policy design. As we saw, many national governments have gone on to establish their own green plans based on the insights of SD. Northern European countries have led the way from the outset, perhaps reflecting the incumbency of social democratic governments at the time (see Meadowcroft, 2000). In an edited collection, Lafferty and Meadowcroft (2000) review the first ten years of SD's impact in a number of advanced industrial economies – or 'high consumption societies'. More specifically, the collection explores 'how a specifically normative concept, articulated largely through debate in international forums, has been integrated into the policy discussions and political programmes of national political arenas' (2000: 2). The titles of the chapters on individual countries provide a snapshot of the findings – at that particular point in time at least. For example, the United States chapter is sub-titled: 'Sorry – Not our Problem'; Norway's 'Reluctantly Carrying the Torch'; The Netherlands, 'Ambitious on Goals – Ambivalent on Action'; and the European Union, 'Integration, Competition, Growth – and Sustainable Development'.

Overall, however, the editors classify the response to SD in 2000 into three main categories – categories which remain relevant today. They describe the first response as 'enthusiastic', 'extensive' and 'pioneering' and suggest that countries that fall into this category 'self-consciously' describe themselves as 'lead states' in the SD effort (Lafferty and Meadowcroft, 2000: 412–3). The second, polar opposite, response is labelled 'disinterested', 'sceptical' and 'disengaged', reflecting the very minimal attention that is paid to SD goals. The third response sits in the middle. Here we find a generally 'supportive' response, but one that is also 'hesitant' and 'uneven' (2000: 413). In their summary table they include the European countries Norway, The Netherlands and Sweden in the 'enthusiastic' category; Australia, Canada, Germany, the European Union, Japan and the United Kingdom in the 'cautiously supportive' category; and the United States in the 'disinterested' one (2000: 412).

Much has of course changed in the near decade and a half since this initial assessment, demonstrating the evolving nature of SD. We come back to consider more recent developments in some of these countries in subsequent chapters.

Conclusion

This chapter has traced the rise and evolution of the green movement and of its associated offshoot, sustainable development. It observed that the green movement is as much characterised by its diversity as by its shared commitment to ecological harmony. The core question that continues to divide it is how best to get from an unsustainable present to a more sustainable future. But few would deny the movement's success in prosecuting its case about a planet in peril. Its warning of ecological crisis has been heeded by increasing numbers of people across the globe, and it has caught the keen ear of both government and business. World bodies such as the United Nations have gone on to carry the environment torch, disseminating it widely through its SD frame.

This widespread endorsement of SD reflects both the powerful nature of the concept as well as its flexible meaning. The underlying premise that economic and environmental agendas can be made compatible means that SD poses few threats to current economic arrangements. Yet, if rigorously applied, SD can be radical in both content and scope. Even the seemingly straightforward Brundtland definition poses significant challenges. Meeting the social and ecological needs of both present and future generations requires, for example, that stark distributional inequalities that characterise contemporary life be confronted and addressed. Similarly, a robust application of SD's precautionary principle would entirely transform how development proceeds.

As we saw, sustainability is now one of the 21st century's key catchwords. So successfully has SD penetrated the global lexicon that today it is simply referred to as 'sustainability'. Over the past two decades in particular, there has been extensive environmental policy and institution building activity across the globe. This signals considerable progress to date in establishing the infrastructure of environmental governance. Yet other indicators signal otherwise. First, and perhaps paradoxically, SD's ascendency has occurred alongside the significant worsening of key environmental indicators (see IPCC, 2014; Steffen et al., 2015a, 2015b). UNEP's Global Environmental Outlook Report, released in 2012, outlines a particularly alarming portrayal of a world in crisis; one where the planet has reached, or in many cases breached, its resource or threshold

capacity (UNEP GEO5, 2012a, 2012b). It finds that environmental pressures and environmental decline are now

> unprecedented in human history ... several critical global, regional and local thresholds are close or have been exceeded. Once these have been passed, abrupt and possibly irreversible changes to the life-support functions of the planet are likely to occur, with significant adverse implications for human well-being. (UNEP GEO5, 2012b)

These trends have accelerated in 2015 (see Steffen et al., 2015a, 2015b). In the face of such ecological deterioration, the inevitable conclusion is that while the *idea* of SD may have won unprecedented support, the *practice* has clearly not matched it.

Second, the issue of consumption has not been confronted in any systematic way (see Dauvergne, 2008). This is despite many positive developments such as the emergence of ethical consumption movements, production innovation, product redesign and recycling. The Brundtland Report highlighted the centrality of consumption growth to SD. Despite this, the sustainability focus has remained on production rather than on consumption. The discourses of EM and CSR have helped reinforce this productivist focus. The UNEP, and other associated bodies and organisations, did put considerable early effort into advancing the notion of sustainable consumption (Nordic Council of Ministers, 1995; OECD, 1997; CEC, 2008). Even so, redress came more in the form of consumer education and information than in addressing the character and quantity of consumption. As Cohen (2010: 108) observes, a focus on consumer information, as worthy at this may be, simply reflects the advanced economies' unwillingness to 'forthrightly confront their wasteful material and energy usage patterns'.

Business clearly plays a prominent role in the sustainability enterprise today – as most consider it should. But this also reshapes the social change relationship between the three main actors in environmental governance – government, business and civil society, and hence the overarching dynamic of SD. The turn to EM and CSR reflects and reinforces these changes, as we explore in the next two chapters.

2
Ecological Modernisation: Promises and Prospects

Introduction

Sustainable development (SD) relies on an economy's capacity to grow within ecological constraints. Most economies will seek to do so in ways that do not diminish their economic and competitive advantages. An ecological modernisation (EM) approach that promises to simultaneously generate economic growth and environmental sustainability within the existing political economy paradigm is thus very appealing. It helps explain why EM is one of today's major sustainability discourses and 'one of the dominant perspectives in the environmental social sciences' (Scheinberg and Mol, 2010: 20). For many, its capacity to generate ecologically benign growth is without peer (Jänicke, 2008: 563). Through decoupling environmental degradation from economic growth, EM promotes a paradigm of co-benefits or 'win-win': 'a positive-sum game' where technological innovation generates economic buoyancy at the same time as it protects the environment (Hajer, 1995: 64). This paradigm, or 'discourse of reassurance' (Dryzek, 2005: 172), is fundamental to explaining EM's widespread appeal. It promises not only to contain costs and create opportunities, but also to do so in a manner that only minimally disrupts economy and society. These qualities have rendered EM central to the pragmatic task of SD. In one way or other, it is the dominant approach to environmental reform today.

This chapter's discussion of EM is divided into several interrelated sections. The first section considers EM's links with SD. The next explores EM's origins, both historical and political, before identifying its key features and characteristics. In considering these characteristics, EM is revealed, not as homogenous, but as a theory and set of practices that incorporates a variety of iterations. Like the green social movement

before it, these iterations can be aligned along a spectrum that situates a reformist or mainstream approach at one end and the possibility of a more radical or transformative iteration at the other. The chapter then explores the political modernisation arm of EM, highlighting an approach which more directly combines the ecological and political modernisation elements of EM, loosely called 'transition management'. Finally, some country snapshots of EM are presented. Overall, the chapter catalogues the extensive penetration of EM discourse and practice into the sustainability domain today and considers the implications of this penetration for the character of contemporary SD. Essentially, EM sets out to 'green' capitalism, not overthrow it. Much EM discussion considers either how to go about doing this; or the difficulty – for some, near impossibility – of doing so.

Sustainable development and ecological modernisation

Ecological modernisation is not directly interchangeable with sustainable development (Langhelle, 2000), but they do have much in common. They share, fundamentally, the ambition of advancing economic growth while protecting the environment, even as the reasons they seek to do this vary somewhat. SD's commitment to economic growth more closely aligns with, and is more directly in the service of, its social equity goals. For the latter, economic growth is seen as the answer to the poverty and misery of under-development. Aside from launching the idea that development could be done sustainably, SD does not occupy itself with the specifics of how to do it. By providing a 'sharper focus than does sustainable development on exactly what needs to be done with the capitalist political economy' (Dryzek, 2005: 169), EM can be understood as a strategy for achieving SD. This sharper focus was considered necessary in the face of SD's limited guidance on the specifics of environmental reform (Buttel, 2000: 60). Certainly SD helped generate the action plan of Agenda 21, but it is EM thinking that underpinned it. While EM is not theoretically or practically mono-cultural, as we discuss shortly, its focus is often unashamedly on the production side of the sustainability equation. It of course welcomes the social and equity benefits that might derive from its application, but this is not necessarily its overriding ambition. EM theory – or at least the mainstream version that prevails – focuses far more directly on reforming business rather than reforming society, even as it claims that the former can lead to the latter in any case.

Conflating SD and EM is easy to do. Weale, one of the first authorial proponents of EM, suggests that the Brundtland Commission's 'Our

Common Future' Report is essentially an EM document (1992: 31). For the author of another seminal book on EM, the Brundtland Report was nothing less than 'one of the paradigm statements of ecological modernisation' (Hajer, 1995: 26). Others note that there are differences but highlight the important features that they share. Dryzek (2005: 143), for example, highlights the nature of SD as an 'integrating discourse' which incorporates a range of different narratives. EM is a prominent one. But while 'at first sight' EM may appear to focus singularly on industrial modernisation, 'it also points to political and economic possibilities beyond industrial society', which presumably include some of the broader social goals of SD (2005: 144).

Despite these overlaps between SD and EM, others make a strong case for distinguishing them and limiting their conflation. Langhelle, for example, argues that EM is a necessary component of the sustainability drive, but on its own it is not sufficient (2000: 303; see also Barry, 2005). This is largely because SD 'attempts to address a number of issues about which ecological modernisation has nothing to say'; in short, unlike EM, SD is about more than just the environment (Langhelle, 2000: 308). EM is also considered to have limited application. EM addresses itself more directly to the developed world, rather than the developing – the latter a major focus of SD – and to the institutional 'meso-level of national governments' (2000: 309). These differences are not simply theoretical, however; they have important implications for how sustainability policy is shaped and operates. Indeed, they 'effect not only the scope, but also the goals, targets and levels of ambition that environmental policy should aim for' (2000: 318). Viewed this way, SD is much broader than its EM cousin. SD highlights social and equity concerns, duties to others, particularly the poor and future generations, and duties to preserve the biosphere on which all life depends (even if conceived very anthropocentrically). EM adopts a narrower focus that stresses innovation and the promethean role that technology can play in arresting environmental decline. This narrower focus means that the social change it generates is constrained – industrially, socially, economically and politically.

Like SD, EM is also a contested concept whose meaning varies considerably. Also like SD, how the idea is conceived, or where the emphasis is placed, will depend on the ambition ascribed to it by the actors who engage with it. These different meanings include consideration of EM as technological advancement (Weale, 1992; Huber, 1982); as a discursive strategy (Hajer, 1995; Blühdorn, 2007); a political program (Dryzek et al., 2002; Mol, 1996); a social theory (Buttel, 2000; Mol, 2000; Mol and Spaargaren, 2000); and an industrial modernisation plan more

broadly (Huber, 1982; Jänicke and Weidner, 1997). All these considerations share a key observation: that EM requires rethinking the relationship between environmental protection and economic prosperity, which means bringing business more directly to the table of environmental reform. But in order to do so, it is first necessary to make the case that environmental protection – even if a worthwhile goal in itself – is also actually good for business. The co-benefits logic of EM is central to its character – and its take up. It proposes, in short, a new and mutually beneficial working relationship between government and business and between government, business and civil society.

A new approach to environmental management

The idea of EM emerged in a largely European context in the early 1980s. It was in part a counter to the radical proposals of those in the environment movement who urged more transformative socio-industrial change (Buttel, 2000; Bailey and Wilson, 2009). EM sought to recast the environmental debate away from these radical prescriptions into a pragmatic orientation more likely to be realised. Its normative core drives a fundamental proposition: that a reconceptualisation and repositioning of the relationship between environmental protection and economic growth renders these seemingly adversarial goals not only compatible, but also mutually beneficial. SD had already suggested that these objectives needed to be twinned, but it was EM that decreed them mutually beneficial. As an early theorist put it, EM represents an enlightenment progress that sees 'the dirty and ugly caterpillar … transform into an ecological butterfly' (Huber cited in Mol, 1995: 37).

From the outset, EM contained what Barry (2005) calls descriptive and prescriptive characteristics. Descriptively, some interpretations of EM emphasise explanatory accounts of 'actual changes in environmental policy and interactions between the economy and ecology in western societies'; and prescriptively, 'normative/ideological accounts' champion EM as the most effective way of achieving environmental reform (2005: 305). In light of the state's and the green movement's failure to stem ecological decline, and their lack of practical proposals for doing so, the sense was that both states and greens should enthusiastically embrace EM. EM offered a way to 'rethink and renew state-market relations in environmental reform' (Mol and Jänicke, 2009: 4).

Historically, Joseph Huber (1982, 1985) and Martin Jänicke (1985, 1992) are usually identified as the first theorists to introduce the notion of EM into their work. Germany and the Netherlands are in turn

acknowledged as among the first countries to systematically embrace the insights of EM. Alongside them, at least in the 1980s and 1990s, sat Finland, Norway, Sweden and Japan (Dryzek, 2005: 162). The fundamental, and convincing, proposition of these theorists was that, with some rethinking and restructuring, a capitalist industrial economy could utilise the impetus of innovation to render industrial practices more environmentally benign. There was no need to go down the fundamentalist anti-capitalist road that some radical greens proposed; instead, capitalism could simply be greened. Indeed, as Buttel (2000: 59) points out, Huber's 'original contributions to ecological modernisation thought were reactions to the anti-modernist views of key ("fundamentalist") figures' in the green movement who championed radical change. As Jänicke (2008: 563) put it, the potential of an EM approach to 'radically reduce the environmental burden of industrial growth' – to green capitalism rather than overthrow it – 'is without any alternative'.

Weale (1992) built on these early accounts of EM, but also extended and expanded them beyond Huber's earlier notion of 'superindustrialisation'. For Weale, EM was more than simply about the processes of industrialisation, as important as these were. He understood EM as 'a view about the *relationships* between the environment, the economy, society and public policy that has to be pieced together from various sources' (Spaargaren and Mol, 1992: 336; emphasis added). He challenged the assumptions that prevailed in the 1970s regarding how best to stem environmental degradation. 'End-of-pipe' technologies were singled out as particularly inadequate to the task, as was the single-minded focus on coercive regulations that, without industrial collaboration, would trigger very limited change (Weale, 1992: 75).

Weale's views influenced the shape of the Dutch National Environmental Policy Plan in 1989. As Dryzek (2005: 163) observes, the Dutch plan is 'grounded in a sophisticated theory of how pollutants are generated and travel through human social systems'; hence, rather than controlling pollution at its end-of-pipe source, the plan instead took a preventative approach that sought to avoid it occurring in the first place. While these preventive practices may now be more mainstream, at the time they represented a novel insight: that ecological criteria should be built into environmental design and planning from the outset (2005: 167). This introduced the important notions of prevention and precaution to environmental management. None of these early theorists saw this ecological change task as easy, however. Importantly, each, if in different ways, acknowledged that bringing business on board as willing partners in this enterprise required that real benefits accrue to them. In

short, there had to be 'money in it for business' (2005: 167). Only if the EM strategy was 'win-win' could business be persuaded to invest in it. It was this unambiguous realisation that shaped EM's rationale.

The wider dissemination of EM thought is generally attributed to theorists such as Arthur Mol and Gert Spaargaren, and a number of their associates (Mol, 1995, 1996; Mol and Spaargaren, 1993, 2000; Spaargaren and Mol, 1992; Cohen, 1997; Leroy and van Tatenhove, 2000). Mol and Spaargaren are largely acknowledged as having articulated a 'distinctive theoretical argument' and having provided 'what can be thought of as the core literature of the ecological modernisation perspective' (Buttel, 2000: 58). Their arguments built on that of the earlier generation, even as they developed EM into a broader social theory. As social theory their work resonates aspects of Ulrich Beck's notions of reflexive modernisation and risk society. They share the view that more modernisation, not less, was crucial to resolving modern problems. Importantly, however, their modernisation would learn from past mistakes to be much more reflexive and enlightened (Mol, 1996; Buttel, 2000: 62; Beck, 1992).

EM could, in short, occur within the framework of existing, but modernised, political economy arrangements. To this degree, the theorists discussed thus far sit in the 'mainstream' or reformist camp of EM, as we discuss in the following section. Indeed, as Hajer (1995: 3) points out: 'unlike the radical environmental movements of the 1970s, [EM] suggests that environmental problems can be solved in accordance with the workings of the main institutional arrangements of society'. Mol (1996) claimed empirical backing for his views. He observed that while early radical greens' demands for sweeping eco-social change fell on largely deaf ears, by the 1980s and 1990s there was mounting evidence that important environmental institution building was indeed taking place. For Mol (1996: 305), EM articulates 'one of the most outspoken and challenging theories on the institutional transformation of modernity'; particularly through its capacity to 'modernise modernity' by 'repairing' one of its major 'structural design faults' – 'the institutionalised destruction of nature'.

EM achieves such reparation through activating its core features (Mol, 1996: 313–5). First, EM is fundamentally concerned with, and directed to, the institutions of modernity: the modern market and the modern state, along with the institutions of modern science, technology and industrialism. While these institutions may be culprits in environmental degradation, they are now also the source of ecological redemption. But they have to be more directly recruited to the modernisation task. Second, among these institutions, markets are centrally important. The

economic dynamics they trigger – particularly processes of technological innovation – are fundamental to ecological reform. This is because state institutions and social movement actors, on their own, will be insufficient to the modernisation task. Third, while the state is tipped to play an important role, EM requires that it 'amends' its 'traditional central role' in environmental reform. It has, after all, failed to stem environmental decline in the past, in part because of the way it goes about doing its 'business'. These amendments would see state practices shift from their traditionally hierarchical forms to more decentralised, participative and preventative environmental decision-making models. Central to this more decentralised approach is institutional remodelling that would consign more environmental activities to the market. This in turn would make environmental problems more calculable, 'especially monetarily'; would turn environmental problems into 'positive-sum' games; and would reconcile economy and ecology in such a way that 'pollution prevention [would] pay' (Hajer, 1995: 3, 25–6).

EM sets out, in short, to light the path to SD. It seeks to green development rather than eschew it. EM theory promises a socio-economic system that is both sustainable and dynamic, both green and productive. Its modernist logic seeks to renew not only industrial processes but also the statist and societal institutions in which these processes are embedded. The vision is that progressive modernised businesses, in partnership with modernised governments and other societal actors, would invest in technological innovation and adopt management practices that significantly advance environmental reform. The fillip is that this would reduce both ecological harm and industrial inefficiency, the latter representing a significant business saving. EM does not demand *less* industrial and technological development but *more*, albeit an industrialisation that is modernised and greened. Its innovation thus lies in its translation of environmental problems into positive-sum games, so that 'greening business' becomes good for the economy, good for the environment and good for consumers and governments alike. It is this promotion of mutually beneficial solutions to ecological reform, and its utilisation of the existing institutional infrastructure to do so, that renders EM so compelling.

Fuelled by its technological optimism, and the 'linchpin' of innovation, by the early 1990s EM had established itself as the dominant discourse of environmental governance (Fisher and Freudenberg, 2001: 702). Today, technological innovations remain indispensable to environmental reform, as we observe in subsequent chapters. These would now include biotechnical innovations such as nanotechnologies

and genetically modified crops, even as they continue to fuel hostile community reactions (Mol and Jänicke, 2009: 9). Mol and Jänicke (2009: 11–2) stress that their technological optimism is empirically grounded in significant advances in environmental technologies, claiming two innovations as stand-outs. First, end-of-pipe technologies have largely been replaced with more efficient preventative designs. Second, there is a significant shift from the development and application of 'individual technologies' towards more integrated and 'complex socio-technological systems' such as new transport systems, renewable energy systems and integrated water systems.

What is distinctive about these systems is their new market and state co-institutional 'ownership relations'. The recent trend towards private–public partnerships is emblematic of this modernised co-institutional approach. In 2013, Spaargaren and Mol continue to find considerable scope for EM in new and emerging 'environmental' markets – for example, carbon markets. As 'institutions in the making', they view these emergent carbon markets as 'potentially radical instruments for a further eco-modernisation of production and consumption in global modernity' (2013: 191). But they do acknowledge the need to strengthen the relationship, perhaps in response to their critics, between market innovations and social change.

Dominant and counter narratives

However understood, there is no denying the force of EM's narrative. The very term 'modernisation' signals a buoyant progressive future offering ready solutions to difficult problems (Dryzek, 2005: 172). And against the distant radical promise of societal transformation, EM offers a tangible reform plan in the here and now. It is thus 'easy to see why ecological modernisation would quickly conquer the hearts of politicians and policy-makers'; and, indeed, the public at large (Hajer, 1995: 3). But EM so understood was by no means universally embraced. Nor were the more radical wings of the environment movement chastened by the censure that was levelled their way. This was so even among those sympathetic to EM's ambitions. The main criticisms of EM – at least, of its mainstream form – were that it exhibited limited understanding of the complex relationship between ecology and society by overlooking both the power relations and justice implications that underpinned this relationship.

EM is often conceptualised along a reformist–transformative continuum, even as caution needs to be exercised in demarcating positions that can sometimes blur or overlap. Notwithstanding,

these demarcations offer important insights into the character of EM discourse. The literature often distinguishes EM in terms of its 'techno-corporatist' or 'reflexive' (Hajer, 1995); 'stronger' or 'weaker' (Christoff, 1996); or mainstream and 'social constructivist' (Buttel, 2000) forms. These distinctions are underpinned by contrasting analyses of the relationship between ecology and society, and of the processes and actors that drive social change. The mainstream, or reformist, approach – which we traced in our historical overview above – focuses on the prompts of innovation and eco-efficiency, enacted through minimally transformed institutional arrangements. Importantly, this approach 'does not dissociate itself from a capitalist organisation of production and consumption'; but nor does it deny that reform of existing capitalist institutions is required (Mol and Jänicke, 2009: 16). It may deny the more radical critiques of environmental crisis, but it proposes that ecological problems can trigger necessary changes in how capitalist production occurs.

Jonathon Porritt's (2005) book *Capitalism as if the World Matters* presents a detailed exposition of a sophisticated mainstream EM. He seeks to breathe pragmatic life into SD, and while he does not name it as such, his tools fit the EM mould. His book outlines a 'message that business may find they are surprised to agree with' (back cover). Leaving his 'darker' green colleagues behind, on the basis that their strategies for ecological renewal are too idealistic and impractical, his study presents a passionate defence of a 'sustainable capitalism'. For Porritt, capitalism is 'the only game in town' and since the earth's ecological systems are critically stressed, only a creative fusion of capitalism and ecology can avert crisis. His operational premise is a simple one: capitalism is here to stay, and most people, at least in the advanced industrial economies, are happy with their market society; the trick will be to green it.

With economy and ecology closely interdependent, greening the former is not an implausible goal. Capitalism depends on the earth's resources and its survival, along with the societies it enables, in turn depends on sustainable production and consumption. Porritt's ambition is hence to reconcile environmentalism with capitalism, but in a proactive and solution-driven rather than in a reactive and staunchly critical way. Through harnessing the strengths of capitalism and addressing its weaknesses, he develops an EM-oriented sustainable capitalism that utilises a 'Five Capitals Framework': natural, human, social, manufactured and financial capital. His claim is that 'we can't reform capitalism without adopting some of its insights, tools and drivers' (2005: 111). Where Porritt's thesis can be distinguished from other mainstream

eco-modernisers is in his determination to combine some of SD's social justice concerns into his sustainable overhaul of capitalism. Porritt envisages his sustainable capitalism as an 'evolved, intelligent, and elegant form of capitalism that puts the Earth at its very centre' and that actively promotes SD's core values of 'interdependence, empathy, equity, personal responsibility and intergenerational justice' (2005: 324). Of course, the key question remains: can these laudable ecological and social goals be achieved through capitalism or does it remain their chief obstacle? In short, can ecological goals be achieved without a significant shake up of existing structures and their power relations?

Those at the more transformative end of EM think not. A main reason for their circumspection is that mainstream EM ignores, or only pays cursory attention to, an analysis of capitalist power relations and its link to social and environmental degradation (see Harvey, 1996: 378–83; Bailey and Wilson, 2009). These critics charge that rather than fostering institutional renewal, a mainstream EM simply tinkers at its edges. Hajer (1995) labels this form of EM a 'techno-corporatist' one that treats issues technically and managerially and largely disaggregates them from overriding social and political settings. Even Huber (2008), a prime advocate of the mainstream approach as noted above, is, two decades later, somewhat more circumspect about the capacities of such reform. He does contend that 'significant progress' towards this mode of EM has occurred, but cautions that it has been 'repeatedly delayed in present-day core innovator countries' so that even the 'more advanced nations in the present world-system are in early rather than later stages of ecological modernisation' (2008: 366).

This would come as no surprise to some of mainstream EM's critics, who analyse it from a somewhat different analytical frame. Hajer (1995), Christoff (1996) and Dryzek (2005), for example, emphasise EM's social constructivist elements – which sees it as a process of framing, conditioning and controlling social change as much as advancing it. Social constructivists suggest that the way issues are framed, defined and understood determines how they are treated: that 'the developments in environmental politics [including ecological modernisation] depend critically on the social construction of environmental problems' (Hajer, 1995: 264). The construction of an issue impacts directly on how it is managed, and by whom. This helps explain the political contestation over environmental problem definition, with the discursive contest largely directed to defining the 'problem' of the environment and how to fix it. Problem definition offers a way of controlling the policy agenda. If defined as a problem of market and institutional inefficiencies, resolution can be found in the same, if reformed, institutional processes.

The capacity to strategically shape problem definition became even more urgent as environmental awareness spread. By the 1990s, outright rejection of the reality of environmental degradation was no longer tenable; indeed, it was now 'no longer ... a question of whether there is an environmental crisis' but rather 'about its [discursive] interpretation' (Hajer, 1995: 3, 13–4). This placed actors in the business and government realms at strategic crossroads. How could they manage the social change agenda pressed upon them in a way that suited their interests? One way was to shape the discourse of environmental change.

For Christoff (1996: 482) mainstream EM can be understood as just such a 'discursive strategy'; one that is 'useful to governments seeking to manage ecological dissent and to relegitimise their social regulatory role'. Others do not see as accidental the rise in many advanced industrial economies of a mainstream EM assisted 'shift from the environmental movement's grassroots mobilization and activism' to 'a process of deradicalisation, oligarchisation, institutionalisation and professionalisation' (van der Heijden, 1999: 201). With sustainability concerns now firmly rooted, it was no surprise that the contest moved on to how best to control this new agenda – both discursively and politically.

Critics of mainstream EM did not necessarily urge its dismantling. Many instead argued for its emboldening, acknowledging that it had much to offer. For Christoff, it is not simply a matter of drawing up oppositional spectrums of EM: 'weak and strong features of EM are not' simply 'mutually exclusive binary opposites' because an 'enduring ecologically sustainable outcome ... does not abandon technological change, economic instruments or instrumental reason' (1996: 491). Against the shortcomings of 'weak' EM – its technocratic character; fixation with decision-making by economic, political and scientific elites; and its silence on justice concerns – Christoff pits his 'stronger' version. A stronger EM would be more participative, accountable and inclusive; would demand more robust institutional change; and would take a stronger global justice focus (Christoff, 1996; see also Dryzek, 2005: 173–4).

This stronger version approximates elements of Hajer's 'reflexive' (ecological) modernisation which is highly deliberative and normative (1995: 280–92). Instead of an 'objectivist' 'techno-administrative affair' that entrenches environmental decision-making in the hands of industry and policy elites, it urges the establishment of a public domain in which all relevant stakeholders can say their piece. In short, the

> challenge for reflexive ecological modernization lies much more in finding new institutional arrangements in which different discourses

> (and concerns) can be meaningfully and productively related to one another, in finding ways to correct the prevailing bias towards economisation and scientification, and in active intersubjective development of trust, acceptability, and credibility. (Hajer, 1995: 281)

Stronger EM theory is hence reflexive and critical. It more directly confronts the transformational requirements of the modernisation task, and the difficult social and political change dynamics this entails. Wide-ranging and deeply penetrative political modernisation is considered vital to this task. Only then could the kinds of 'reflexive networks' between political, business and civil society actors that are critical to ecological renewal develop. As Warner (2010: 539) observes, '[t]echnological innovation without social critique is likely to reflect prevailing social relations of power'. Stronger eco-modernisation would reposition institutional restructuring and technological innovation so that they are more directly in the service of ecological renewal rather than simply commercial gain. Only then could the power relations of 'business as usual' scenarios be challenged and the justice dimensions of ecological decline addressed.

The stronger version goes beyond the emphasis on innovation and the technological re-tooling of industry. While these are important elements of ecological change, their focus falls too heavily on the production side of the sustainability equation. Mainstream EM is considered a fundamentally productivist narrative (but see Spaargaren and Mol, 2013). Instead, genuine reform would disrupt current patterns of both production and consumption. As Toke (2011b: 20) asks, if EM wishes to do more than 'merely postpone' the inevitable consequences of unsustainability, then it will have to do more than simply subscribe to a view of production that involves 'a usually passive consumer who leaves technology decisions to mainstream industry'. Better quality, more benign production, while important and welcome, does not address the impact of the quantity of consumption, nor the fact that industrial modernisation occurs in a globally uneven way. 'Super-industrialisation' may indeed reduce the pollution load of the production process, but this load will quickly grow as more and more goods are produced. It is thus important to distinguish between 'trends in *efficiency* (that is, impact per unit of production) and *total* resource consumption and waste production':

> Although evidence generally (but not entirely) supports the assertion that economies become more efficient as they modernize, the weight of evidence clearly indicates that modernization leads to increases

> in total environmental impacts. Therefore, in an absolute sense, modernization leads to supermaterialization rather than dematerialization. (York and Rosa, 2003: 282, their emphasis)

In addition, the 'dematerialisation' of individual countries' production practices does not automatically contribute to a reduction in total global pollution load if 'dirty' industries are simply exported elsewhere. This observation is particularly salient in an era of globalised free trade and worldwide sourcing.

Hence, the kind of society that different iterations of EM commend 'matters a great deal' (Dryzek, 2005: 174). A stronger EM sits more comfortably with the 'stronger' interpretation of SD that places equity and justice principles at the centre of ecological reform. But even the strong version of EM concedes that there will be no overthrow of modern capitalist democracies, even as they urge a significant overhaul.

A form of EM that 'contributes both to growth and global distributive justice simultaneously' may be the best that can be hoped for (Harvey, 1996: 379). It is this configuration that a more transformative EM aspires to, even as other critics denounce this 'stronger' version as capitulation to the darker forces of hyper-modernity (see Blühdorn, 2007; Blühdorn and Welsh, 2007); not least because the 'price' for including radicals in the EM fold, particularly at the political level, may be their moderation (Barry, 2003: 204).

Political modernisation

In its either weak or strong form, EM depends on the driver of political modernisation, but for its strong form, deep seated political modernisation is fundamental. For Spaargaren (1997: 15), 'the central feature of the ecological modernisation approach as a theory of political modernisation is its focus on new forms of political intervention'. Buttel agrees, observing that to work, EM requires 'political specificity' so that there is 'a modernisation of politics that reshapes the competitive corporate environment to make the pursuit of environmentally friendly production and management decisions more rational and more likely' (2003: 324). Dryzek points out the difficulty of achieving such modernisation in a neo-liberal environment which urges less rather than more political intervention and oversight; this difficulty is compounded when EM's requirement for a 'consensual and interventionist policy style' can be 'anathema to governments under the sway of market liberal doctrines' (2005: 177). Nonetheless, if the critical step of modernising political

institutions is to occur, ways to deal with the challenges of environmental decision-making in the neo-liberal state need to be found.

The two main insights of EM theory depend on effective political modernisation (Mol and Jänicke, 2009). The first – that business and the market are not just perpetrators of environmental problems but also their potential saviours – could only be acted upon with the instigation of the second: the impetus and cooperation of an 'environmental state'. The way the state approaches environmental policy thus has to shift, from

> a bureaucratic, hierarchical, reactive, command and control state, towards a more flexible, decentralised, and preventative institution that creates networks with other societal actors and applies a variety of approaches and instruments to guide society into directions of sustainability. (Mol and Jänicke, 2009: 6)

In short, political modernisation, so understood, 'formed the ecological modernisation answer to state failure' (2009: 7). But even here, the kind of green state that is erected depends on the social change pressures brought to bear on it (Eckersley, 1995: 2004). Mainstream EM's demands were likely to be less onerous than its more radical counterpart.

In any case, political modernisation, mainstream or radical, is 'not available to all states equally' (Dryzek et al., 2002: 668; see also Mol and Sonnenfeld, 2000; Paterson, 1996). Western European countries such as Germany, the Netherlands, Norway and Denmark are generally identified as the 'stand out' EM states. As illustrated in subsequent chapters, the penetration of EM in these countries is often attributed to decision-making arrangements that encourage a more collaborative relationship between business, government and other social interests (Buttel, 2003: 324; Dryzek et al., 2002; Dryzek, 2005: 166–7). Dryzek et al. (2002, 2003) chronicle the reliance of these countries' early successes on corporatist decision-making arrangements that establish collaborative relationships between business, government and other social interests. In countries practicing even minimal levels of EM, these arrangements saw governments actively commit to establishing the policy settings in which an EM enterprise could flourish (see also Mol, 1996). These settings, largely dedicated to fostering innovation, were not adverse to releasing the 'stranglehold' of 'command and control' arrangements and utilising a range of market-based instruments considered critical to the innovation challenge. But they understood the enterprise as a 'give and take' collaborative effort that utilised both governments' and the market's considerable assets.

Successful EM governance relies on specific kinds of political decision-making arrangements and policy styles. But how would such political modernisation proceed and what form is it likely to take? Here we briefly examine the experience of two countries – Germany and Sweden – long considered exemplars in the early application of EM. We then introduce the related transitions management approach, which builds on but extends EM, and observe how it plays out in The Netherlands.

Some country snapshots

A country's approach to environment issues is conditioned by a range of variables that include its political culture, its resource endowments, its economic history and its geography. Among these variables its economic profile and political culture are central. As Cass (2007: 66) observes:

> Each state possesses a unique approach to state sponsored environmental action. This approach is a product of the institutional framework of the state, regulatory style, cultural differences and historically contingent choices made in both the domestic and international policy processes.

Business is of course a central actor in any capitalist economy. A country's sectoral landscape impacts significantly on its government-business relations and, in turn, the form of EM it embraces. Resource-intensive economies present significant challenges, particularly in an era of climate change. But governments too are central actors with potent social change tools at their disposal. The political modernisation question thus becomes how they choose to wield them.

Lundqvist (2000: 22) outlines the characteristics of an ecologically modernised policy approach that he compares to a traditional environmental one. He utilises these characteristics to assess Sweden's EM experience, but they have broader application. While the traditional view of environmental problems understands them as conflict ridden and zero-sum, EM instead sees them as positive-sum and consensual. For the traditionalists, environmental issues demand an adjustment to growth while EM positively 'greens' it. Traditional environmental policy is reactive and punitive, where, for example, the polluter simply pays; EM's preventative and proactive approach means that 'pollution prevention pays'. And against compartmentalised administration and policy-making, EM adopts an integrated, 'problem solution' approach that promotes partnerships and innovation (2000: 22). Institutionally, political modernisation for SD takes several interrelated routes: the

introduction of new environmental policies, policy frameworks and policy approaches; the establishment or refurbishment of environment and environment-related institutions and institutional arrangements; and an enduring commitment to sustainability among political elites.

Germany

Germany has long been committed to environmental protection. This was caused in part by its land-locked geography, which sees it sharing its borders and its major rivers with a number of other European states, heightening its experience of environmental externalities such as acid rain, smog and river pollution (see Jänicke and Weidner, 1997). Germany's high population density, its dense transport networks, its highly industrialised agricultural sector and its chemical-intensive industries exacerbate its environmental stresses (Beuermann, 2000: 86–7). This profile prompted a range of bi-partisan pollution control policies as early as the 1960s and 1970s. The combination of a growing green movement, the rise of the German Greens Party and the increasing visibility of environmental problems accelerated environmental consciousness, so that by the late 1980s Germany was well on its way to adopting an EM approach that would go on to define it.

Corporatism is another important part of the German story. Tripartite arrangements between well-organised unions, business associations and state elites have created the conditions for Germany's successful economic model. The notion of a social market economy underpins the German capitalist state. After the ravages of the Second World War, Germany based its market economy on the principles of capitalist competition overseen by a society-oriented state. In partnership with the other core elements of a market economy – business associations and labour unions – the German state set about creating the conditions for a prosperous society devoted to the common good, or social harmony. This prosperity was characterised by two aspects that underpinned Germany's economic success: its commitment to industrial innovation and to entrepreneurship, both at the larger industrial scale and at the level of family businesses (Schneider, 2013).

Germany's policy style thus emerged from legally sanctioned corporatism codified in law (Desai, 2002; von Beyme, 1985; Jänicke and Weidner, 1997). This inculcated 'a unitary view of the public interest' which at first acted to exclude outsiders, such as green movement actors, from access to political decision-making fora (Dryzek et al., 2002: 671). Perhaps paradoxically, EM in Germany hence began 'when environmentalists were

still excluded from the state – and especially from its core' (2002: 671). This exclusion encouraged an oppositional green culture that the political state could not ultimately ignore (Toke, 2011a, 2011b). Green movement actors may not have directly forged the initial shift to EM in Germany, but once they did come on board they quickly set about strengthening it (Dryzek et al., 2002: 674; Toke, 2011a, 2011b). We observe some of these dynamics at work in Germany in Chapter 6.

Germany has long been considered a leader in environmental and policy innovations. From the late 1960s it adopted an 'end-of-pipe' approach to pollution control which, by the early 1980s, it began to ecologically modernise. By the 1990s its approach was more precautionary and preventative. In collaboration with business and other societal actors, including greens, German governments began to actively promote cleaner technological innovations and eco-efficient industries, as we detail in Chapter 6 (see Jänicke and Weidner, 1997). Hatch (2007) traces this environmental policy evolution in his study of Germany's climate change policies – policies underpinned by the logic of EM. Business was seen to gain by an early investment in climate abatement technologies. These investments were actively encouraged by government, which provided policy and regulatory support. This enabled Germany to establish itself as a leader not only in climate policy but also in related technological innovation more broadly. In the 1980s and 1990s, it was the top performer among 16 developed economies in pollution control technologies (Dryzek, 2005: 163). The German government was central to these initiatives.

Germany's climate change response is emblematic of its EM approach. Its response rested on agreements it was able to forge between key business and social actors to take seriously a problem that would affect them all, but that could also provide commercial opportunities. Hatch (2007: 43) highlights the influence of an independent report presented to the German Parliament by the Enquete Commission on Preventative Measures to Protect the Atmosphere in 1989. The report drew on hearings and deliberations with a broad range of stakeholders: scientists, politicians, industrialists and environmentalists. Moreover, as Hatch (2007: 45) points out, these participants were chosen not only

> for their expertise but also for their ties to important social groups ... They were not simply agents of their political parties, interest groups or scientific bodies, however. Representatives from major industrial associations were consulted, studies were commissioned, politicians and ministry officials were heard.

The ultimate recommendation to reduce emissions by 30 per cent by 2005 was a very ambitious target at the time (Hatch, 2007: 43).

Sweden

A 2010 assessment report by the Swedish Environmental Protection Agency, noted that two 'recurrent and intertwined' themes underpinned its environmental policy approach over several decades, themes closely linked to EM and SD:

> the relationship of environmental policy to the overall modernisation of Sweden, and the relationship of environmental legislation to other areas of legislation of importance for the environment. (Lönnroth, 2010)

This approach was in turn supported by, and emblematic of, Swedish political culture and its decision-making arrangements. Several characteristics of this culture stood out. These included a consensual rather than confrontational approach to decision-making, a societally shared embrace of modernisation as the path to Swedish social and economic welfare, and strong respect for scientific rationality. Together these characteristics helped integrate environmental concerns across Sweden's machinery of government, and into the core of its welfare state, the latter 'in itself, seen as both a result and a driver of modernisation' (Lönnroth, 2010: 10). Hence, while not formally codified as in Germany, Sweden's own corporatist arrangements facilitated its environmental goals.

Collaboration between the state, the market and other social interests had long been seen as the most effective way of achieving social and economic prosperity. Sweden's environmental record since the 1970s has been a relatively strong one. Like Germany, Sweden too was an early innovator in environmental reform. From the 1960s, Sweden took seriously the environmental consequences of rapid industrial development. Internationally, it took a bold initial step in hosting the world's first global environment conference in 1972: the United Conference on Human Environment. In addition, it was one of the first countries to establish an environmental protection agency, and one of the first to establish wide-ranging environmental policies and legislation. Today it is still considered by many to be 'one of the most ambitious and ecologically modernised countries in the world' (Lidskog and Elander, 2012: 413; see also Jänicke, 2008).

From the outset, Sweden justified its environmental approach as part of its overarching commitment to the welfare of its citizens. To this end,

its environmental goals were couched in ecologically modernised terms. Rather than inhibiting industrialisation, environmental protection was instead seen as 'another force for the [further] modernisation of Swedish industry' (Lönnroth, 2010: 11). Its collaborative approach to environmental management saw it work closely with business and trade unions, hence garnering widespread societal endorsement for its environmental reform program. This program promoted environmental reform in positive-sum terms as an engine of economic growth and green jobs, as well as ecological health (Lundqvist, 2000: 22; see also Lidskog and Elander, 2012). As in Germany, however, part of the strong support for environmental goals was designed to counter the growing influence of the Swedish Green Party (Vail, 2008: 87).

Sweden has excelled in pollution abatement, an area where 'environmental policy has been fully aligned with modernisation' and supported by 'full statutory authority' (Lönnroth, 2010: 17). Internationally, it has been proactive in implementing conventions it was a signatory to, including those on climate change, biodiversity conservation and protection of the ozone layer (Lidskog and Elander, 2012: 416). Overall, it committed to achieving a 'sustainable society' by 2020, proclaiming, in 1996, that Sweden 'should be a driving force and model for ecological sustainability' (Vail, 2008: 86). Indeed, the then Swedish social-democratic government's 'noble mission' was nothing less than making the environment 'an explicit and long-term priority' (Lundqvist, 2000: 22). Political leadership is hence an important factor in explaining this 'noble mission'. In the 1990s, even against a recessionary background, the then prime minister made a convincing case for maintaining Sweden's ecological ambition. That staying the course was pressed by a prime minister rather than 'fringe' environmental actors reinforced the depth of the commitment (Lundqvist, 2000: 30).

But even in Sweden, the gap between what EM promises and what it achieves is 'widening instead of closing; this is despite [Sweden's] reputation as a forerunner in environmentalism and sustainable development' (Lidskog and Elander, 2012: 422; see also Vail, 2008). Some of Sweden's own agencies note the country's mixed achievements. Successes in pollution abatement, for example, have not extended to the area of marine pollution (Lönnroth, 2010: 17). And while progress in nature conservation is commended, biodiversity protection lags (2010: 17). The Swedish Environmental Protection Agency Report concludes that Swedish EM policies face significant challenges in the forthcoming years, particularly as 'domestic, European and global issues become increasingly interconnected' (2010: 19). The last two or three decades have thus produced a mixed 'scorecard' on Swedish EM.

Countries such as Sweden and Germany are among a number which have gone some way to embedding the principles of SD and EM into their environmental management practices. But even in these countries the road has been rocky and the achievements mixed. A key test of the commitment to EM and SD is the route countries take in the face of confronting economic challenges; in short, whether EM is a fixture in the political agenda, or ever vulnerable to competing economic goals. In Sweden, for example, despite significant modernisation achievements, the country

> has never developed an environmental policy that challenges the growth logic. When financial crisis and economic recession became top priorities on the policy agenda, the environment no longer appeared very important, as illustrated in the 2010 election campaign … On the other hand, there is a broad rhetorical consensus, even among growth-orientated elites in Swedish society, that a sound environment is a prerequisite for economic growth. (Lidskog and Elander, 2012: 321)

The transition management discourse that we turn to next seeks in part to address some of these shortcomings.

Transition management

Transition Management (TM) sets out to more deeply combine the technological and institutional forces of innovation to achieve EM. If EM sought to provide a 'sharper focus' on what needs to occur to realise SD, TM sets out to provide an even sharper one on how to achieve EM (Loorbach, 2007; Breukers and Wolsink, 2007). TM's ambition is to breathe new life into an EM project that is deemed to have stalled. TM can thus be understood as:

> a form of process management against a set of goals chosen by society. Societies' problem–solving capabilities are mobilised and translated into a transition programme, which is legitimised through the political process. (Kemp and Loorbach, 2003: 12)

This transition would go beyond the more circumscribed 'techno-industrial' goals of EM – long considered a shortcoming of a mainstream, technocentric EM. According to its proponents, while TM is incremental and gradual, the dynamic would build until the desired transformation

occurs (Rotmans et al., 2001). Importantly, with both the economy *and* society required to change in 'a fundamental way', the process has the potential to trigger a stronger EM (2001: 15).

TM directly confronts the 'paradox' of EM (Smith and Kern, 2007: 4). As Hajer (1995: 267) originally pointed out, this paradox sees, on the one hand, governments largely concurring on the need for significant structural change to address critical environmental problems, while, on the other, resisting the endorsement of policies to achieve this. To overcome this impasse, proponents of TM urge a 'third way' for achieving EM, one that combines 'the advantages of incrementalism (based on mutual adaptation) with the advantages of planning (based on long-term objectives)' (Kemp et al., 2007: 78). The policy learning that underpins TM would help guard against the political dynamics that can stymie renewal; and a 'regular adjustment' of environmental policy goals would help 'overcome the conflict between long-term ambition and short-term concerns' (Rotmans et al., 2001: 15). TM planning would thus look beyond the necessary but insufficient focus on situated industrial or firm level change. Rather, it would seek to trigger simultaneous change in a number of different areas that together would create the broader socio-economic transformations critical to SD, including to both production and consumption systems (Rotmans et al., 2001; Kemp et al., 2007; Smith and Kern, 2007, 2009).

Innovation remains pivotal to TM, as it does to EM. But TM's ambition to apply innovation to a broader range of industrial, social and political processes renders its approach to innovation in itself innovative. In the industrial arena, innovation would remain the lifeblood of sustainable technological change; in the social arena, ecological learning would trigger changes to lifestyle and consumption patterns; and in the political arena environmental policy would be reflexive, adaptive and responsive to policy learning. As Smith and Kern (2007, 2009) note, while the capacity of innovation to trigger the decoupling of environmental degradation from development processes remains a bedrock of EM, TM 'repackages' it into a more successful transition framework. The transition 'storyline' hence 'broadens the policy focus beyond firm-level processes' (Smith and Kern, 2009: 80). Building on but extending EM, this framework incorporates three core elements: a shift to more sustainable socio-technical systems steered by co-evolutionary and wide-ranging institutional changes; the encouragement of experimentation and innovation in a broad range of social contexts and niches; and an integrated, collaborative and multi-stakeholder policy approach (Loorbach, 2007 in Smith and Kern, 2009: 80). This could include processes such

as 'multi-stakeholder civic arenas for debating and progressing transitions to sustainable socio-technical systems; practical niche experiments for exploring potentials; [and] institutions that promote social learning, supportive policy development and innovation' (Smith and Kern, 2007: 7). In short, a successful transition to SD requires a 'co-evolutionary' approach that embeds the principles and practices of sustainability into the full range of social processes (Kemp et al., 2007). Understood this way, transition management benefits from the 'learning processes' that derive from the 'set of long-term, structurally interrelated changes in *multiple* domains of society' (Breukers and Wolsink, 2007: 108; emphasis added).

The TM discourse first developed in the Netherlands, a pioneer – alongside other European countries discussed above – in environmental reform. From the late 1980s, the Netherlands had developed a number of comprehensive National Environmental Plans (NEPs), each of which was deemed to have achieved only limited success in achieving its EM goals. In the face of the shortfall between ambition and achievement, the new NEP4 in 2001 sought to revive a flagging environmental reform agenda. A key difference between this and earlier plans was its long-term focus: from the traditional 4 years to 30 years. While NEP4 acknowledged the achievements of previous plans, it highlighted the importance of a deep and renewed focus on the longer term, on the processes of cross-policy integration and on system innovation. In particular, it identified 'seven barriers to sustainability':

1. Unequal distribution: [poverty–environment link]
2. Short-term thinking (in politics and business)
3. Fragmented policies and institutional deficits
4. Prices do not reflect external costs
5. Actors causing problems do not own the problem
6. Solutions involving system changes are surrounded with great uncertainty
7. Insufficient precaution. (Kemp and Loorbach, 2003: 4)

Broad-based industrial innovation was hence central to its TM ambition. But in keeping with the requirement for multi-systemic change, so too was innovation in its political and institutional architecture. This demanded 'goal-oriented' incrementalism steered by adaptive, multi-level and interactive governance (Kemp and Loorbach, 2003).

How deeply such an approach has penetrated the environmental governance of the Netherlands and what the prospects are for other

countries seeking to adopt it (see Beuermann and Burdick, 1997) is far from settled. While some may be quite optimistic about the TM promise (Kemp et al., 2007; Kemp and Loorbach, 2003), others are more circumspect. Smith and Kern (2007), for example, conclude that, despite its ambitions, TM has failed to strengthen the EM of Dutch society in any meaningful way. The usual problems persist: a gap between theory and practice; the priority accorded to economic goals over ecological ones; a continuation of piecemeal incremental reforms; and limited decoupling. In short,

> if the full ambitions of the transitions approach are to be realised, the debate needs to become much broader, public and democratic, and a supportive power base must develop to challenge established ... discourses and institutions and reinvigorate the practical meaning of sustainable transitions. (Smith and Kern, 2009: 96)

TM sets out to generate so fundamental a transformation that it would trigger a change in the whole approach to environmental governance (Rotmans et al., 2001), even if in some cases this would occur incrementally. Environmental regime change, however, is clearly no easy task and likely to be fiercely resisted by those that the current regime advantages, as our case studies illustrate. Furthermore, the documented worsening of a range of key environmental indicators in the early 21st century, particularly regarding climate change, would seem to indicate that changes to environmental governance regimes have a considerable way to go.

Conclusion

EM, particularly in its dominant mainstream form, is a major discourse of environmental management today. Its logic: that there are co-benefits to environmental reform; and its promise: to deliver SD relatively painlessly, helps explain its widespread appeal. EM contains two core components that respond directly to the promises of SD: the modernisation of industry and its practices, and the modernisation of the political sector and its institutions. Together these would produce a transformed government-business relations culture dedicated to SD. Perhaps even more importantly, EM's strength lies in its expression of hope for the future. The capacity of a mainstream EM to counteract 'doomsday' scenarios that often have the effect of disengaging rather than engaging constituents, should not be overlooked. Furthermore, a discourse in

which ecological gains can be achieved without too radical a restructuring of the institutions and economic ambitions of contemporary capitalism offers much social reassurance. In his comprehensive survey of today's major environmental discourses, Dryzek concludes that EM has the distinction of standing 'alone' as 'a plausible strategy for transforming industrial society into a radically different and more environmentally defensible (but still capitalist) alternative'; but only if it adopts a stronger reflexive form (2005: 179).

EM represents the 'how to' of SD, embracing SD's reconciliation ethos but going further. Not only would society benefit from a more sustainable environment, but business too would gain from investing in sustainable innovation. Beyond its corporate social responsibilities, investing in the technologies of the future could also prove commercially savvy. Far-sighted governments would also recognise the inherent benefits of a process that would simultaneously provide societal harmony and economic buoyancy, and without too heavy a disruption to business as usual. Certainly, as we discuss in the next chapter, the corporate sector, through the discourse of corporate social responsibility (CSR), not only embraces this iteration of EM but has made it its own.

3
Corporate Social Responsibility: Business Stepping Up?

Introduction

'It's harder to lie now; the world is more transparent'. This observation was made by Colin Crouch in reference to the contemporary corporate landscape (in Stone, 2012). It is likely an observation shared by many in the corporate sector, which helps explain why corporate social responsibility (CSR) is a prominent feature of today's corporate environment. Most large companies go to considerable effort to cultivate a positive CSR profile. This reflects the growing social expectation that corporations extend their responsibilities beyond profits and shareholder returns, and behave in a manner that is transparent and accountable. The generality of the term 'social' renders these responsibilities wide in scope and reach. Certainly, corporations have worked hard over the past few decades to imprint themselves as friends not adversaries of the environment. Indeed, some corporations market themselves as leaders of the sustainability drive, championing their 'sustaining' corporations as emblematic of the corporate future (Dunphy et al., 2007, 2014). CSR thus signals the corporate sector's bona fides in acknowledging its contribution to social and environmental problems and its preparedness to address them. Amid the myriad definitions of CSR its proposition is a simple one: corporations should sacrifice some of their profits in the social interest (Elhauge, 2005). In this increasingly transparent world, corporations hanker for the legitimacy that CSR confers, particularly in a neo-liberal era that has enhanced their operational autonomy.

CSR is a broad ranging discourse and set of practices that extend well beyond corporate responsibility for the environment – the main focus in this chapter. But its 'politics' share much, whether applied to the environment, labour relations or stakeholder engagement. To explore

this complex landscape, the chapter is divided into several sections. First, it examines CSR's background and origins, starting broadly with the effect of neo-liberalism on the contemporary government-business relationship, before proceeding to its historical origins and the different experiences of CSR in the United States and Europe. Second, the chapter explores CSR's various forms, which are conceptualised in ways that also mirror our analysis of ecological modernisation (EM) in the previous chapter. The third section examines the burgeoning area of CSR reporting, focusing in particular on the Global Reporting Initiative (GRI) and the United Nations Global Compact. Finally, the chapter illustrates its analysis by considering how CSR manifests in the climate change domain, broadly understood. Here it considers how the politics of CSR play out in Germany and the European Union; before reflecting on the fossil fuel divestment campaign, and what it tells us about CSR.

Background and origins

We discussed the political economy background to CSR in the book's introductory chapter – a background that is particularly pertinent to the rise and shape of CSR. The contemporary neo-liberal age in which CSR is both embedded and a product of, is complex and multidimensional. Importantly, it has reshaped the relationship between government and business, and indeed between government, business and civil society, in significant ways. In the context of enhanced market liberalism and a globalised market economy, contemporary corporations have substantially increased the scope and reach of their power. Neo-liberalism confers markets and market mechanisms greater status today, especially by linking them more directly to economic buoyancy – even as the empirical basis of such buoyancy is contested. Corporations benefit from such market 'liberalism', particularly if it enhances their autonomy. But the role of markets today extends beyond the commercial arena. Many social provision functions, such as education and welfare, are also increasingly 'marketised' or privatised, and this has now extended to the environment. As governments retreat from social provision, this responsibility can be passed on to corporations. This necessarily expands corporations' entanglement with societal goals and norms and the increased public expectations that accompany them.

The enhanced powers and freedoms afforded corporations in a neo-liberal age can hence come at a cost. Even if not involved with direct social provisions, the view is that the modern corporation benefits from society and should repay these benefits in kind. And in an increasingly transparent

age, more focus is directed towards ensuring that corporations fulfil their social duties in meaningful ways. Paradoxically, the 'period in which the neoliberal state has become hegemonic' has also been the period in which increasingly well-organised civil society actors have honed their own oppositional skills (Harvey, 2005: 78). One way corporations can manage these 'social contract' expectations is through the ambit of CSR, which affords them the opportunity to both showcase their social responsibility and, importantly, manage and control its overarching politics.

Globalisation and anti-corporate sensibilities

Fervent anti-corporate sentiment over the past few decades has influenced the shape and pace of CSR. The unwelcome focus on corporate behaviour driven by the new social movements of the 1960s and 1970s culminated in the anti-globalisation or anti-corporate movement of the 1990s and early 2000s. For these anti-corporate critics, the nature and power of the modern corporation was significantly enhanced by neoliberalism and globalisation (Klein, 2000; Starr, 2000). The charge was that corporations used this enhanced power to ruthlessly advance their own interests, at significant societal expense (Starr, 2000). During its peak years, the anti-corporate movement was very successful in drawing worldwide attention to the stark inequalities and injustices perpetrated by a more rapacious corporate sector, even as this critique had been mounting for some time. This helps explain the anti-corporate movement's alternative name: the global justice movement.

The new communication technologies that helped fuel globalisation have, paradoxically, also helped fuel its resistance. The anti-corporate movement utilised these technologies to coordinate large-scale global protest events which steered unwelcome attention on corporate behaviour worldwide. Importantly, this critique mobilised anti-corporate movements in the South as well as the North, exposing some unconscionable corporate operations in developing countries that had previously been shielded from view. Globalisation may have enriched many companies but increased exposure to exploitation of workers and the environment combined to tarnish the corporate sector's reputation worldwide, even for 'well behaved' corporations (Klein, 2000; Starr, 2000). The upshot was that legal and regulatory compliance no longer shielded corporations as it may have done in the past. Broader ranging corporate legitimacy was now at stake. As Gjølberg (2009: 608) observes:

> Whereas in the past it sufficed for companies to follow national rules and regulations, the present regulatory vacuum forces them to go

> beyond legal requirements to be perceived as responsible and legitimate actors ... Thus, for commercial reasons, corporations need to establish a new form of legitimacy and a social license to operate.

It is precisely this new form of legitimacy CSR looks to cultivate.

There were, and are, of course, a range of views on globalisation, and not everyone took the oppositional stance of our anti-corporate actors. Many were agnostic on the issue, while others were divorced from its impacts and implications. For its critics, however, there was no equivocation: globalisation was directed by the powerful for the benefit of the few, transferring power to corporations who then directed increasingly compliant states to do their bidding. Such beliefs – even if viewed as extreme – represented a risk to corporate reputations; and indeed to governments if they were perceived as overly lenient toward corporations by allowing such unconscionable practices to occur. Identifying transnational corporations as 'the enemy' was a powerful tactic at the time. In an aptly titled book – *Naming the Enemy* – Amory Starr (2000) articulated a compelling narrative: that globalisation had invested corporations with inordinate power which they then wielded to inflict social, economic and environmental devastation on many communities worldwide.

Other influential critics concurred. Naomi Klein (2000), for example, highlighted these corporations' enhanced capacity for profit maximisation through worldwide sourcing and brand sovereignty. Assisted by 'free' trade mechanisms that allow many multinational corporations to source their labour and raw materials in often poorer and less regulated regions of the world, these corporations pursued a 'race to the bottom' that significantly enhanced their profits while simultaneously impoverishing local communities and the environment:

> What these companies produced primarily were not things ... but images of their brands. Their real work lay not in manufacturing but in marketing. This formula ... has proved enormously profitable, and its success has companies competing in a race towards weightlessness: whoever owns the least, has the fewest employees on the payroll and produces the most powerful images, as opposed to products, wins the race. (2000: 4)

The CSR impetus was of course already well established long before the concentrated rise of this anti-corporate protest, as we trace below. But the renewed focus on corporate behaviour, driven in part by green critics,

nonetheless consolidated CSR's rise and helped shape its contemporary form. With governments often condemned alongside their corporate counterparts, and with corporations proclaiming their ethical 'rebirth', a new governance approach, underpinned by CSR norms, began to reconfigure the government-business relationship. Crouch (in Stone, 2012) calls this development a 'paradox that strikes at the heart of neo-liberalism'; one where 'the belief that governments cannot do anything efficiently has taken hold' and 'businesses have come under more pressure to act in ways they were not expected to before'. These dual effects combine to intensify the public expectations of corporate behaviour, which feeds directly into the growth of CSR.

National origins

The contemporary political economy is a key driver of CSR. But CSR's origins are also more complex and multifaceted. Globalisation offers important explanations but country specific factors such as political history and culture are also important, as observed in our discussion of EM. EM's origins and penetration in some European countries – particularly in Sweden, Germany, the Netherlands and Norway –derived in part from these countries' corporatist cultures. In many European social democracies, collectivist or corporatist governments ensured that economic arrangements made provisions for wide-ranging social services, including protection of the environment. This helps explain the penetration of both EM and CSR sensibilities in these countries.

Gjølberg (2009) considers CSR's origins in terms of exogenous and endogenous factors. She labels the exogenous explanation the 'globalist hypothesis' which 'postulates that a company's CSR efforts are a function of the dictates of the global market place: strong anti-globalisation and anti-corporate sentiments generate a need for a positive reputation to obtain a "social license to operate"' (2009: 605). This is consistent with our discussion above about the strategic impact of anti-corporate and anti-globalisation sentiment on corporations' standing. But the endogenous perspective is also important. Gjølberg's 'institutionalist hypothesis' suggests that 'a company's CSR efforts are a function of institutional factors in the national political-economic system: companies based in political economic systems with strong institutions for social embedding of the economy have comparative institutional advantages for success in CSR' (2009: 605).

These institutional variables are hence important in explaining the type and extent of CSR penetration in a given polity (Gjølberg, 2009; Hall and Soskice, 2001; Maignan and Ralston, 2002; Crouch, 2011;

Gond et al., 2014). The first variable is the country's welfare arrangements, and the social democratic norms which often underpin them. The second is corporatist decision-making frameworks, which create decision-making partnerships between government, business and labour. In these collaborative settings, corporations may have some difficulty pushing the goal of profit maximisation too far. Beyond specific welfare provisions, a welfare state and its corporatist underpinnings denote a particular normative approach to the citizen-government relationship. Social democratic polities are more likely to have legislated requirements that enforce, for example, stronger social responsibilities including employee rights and stronger environmental oversight. Beyond legislative requirements, a political culture that embeds strong social responsibility norms into its governance framework can, in turn, influence management culture within firms. Understood this way, 'strong' welfare state policies can

> create direct and indirect forces that encourage companies to adhere to higher standards, resulting by default in an objectively higher environmental and social performance in the average domestic company which in turn will make it easier to qualify for global CSR initiatives and ratings. (Gjølberg, 2009: 610)

Taken together, these stronger public participation traditions drive 'improved CSR-performance in companies'; furthermore, '[o]utpoken NGOs, investigative journalism, consumer awareness and public debate' provide 'companies with stronger incentives for engaging in CSR' (Gjølberg, 2009: 611).

While many European countries may have been proceeding down a socially responsible path, CSR was not necessarily named as such there until comparatively recently. Paradoxically then 'CSR is essentially a US idea', the place 'where the language and practice of CSR first emerged' (Crane et al., 2008: 13). In the absence of a tradition of strong social welfare in the United States, even as the welfare ethos ebbed and flowed over time (see Marens, 2013), it was left to conscionable companies to fill the gap. The CSR story in the United States is hence an altogether different one. Here an individualist and small government ideology, and a suspicion of collectivist ambitions, constrained the welfare state. A good deal of social service provision was instead transferred to the corporate sector, primarily on a philanthropic basis. Hence, while American companies were encouraged to 'give back' to the community, and many did indeed do so, much of this was philanthropic and voluntary. Studies

have nonetheless shown that corporations in the United States were the early runners on CSR and were more likely than their European counterparts to have well-developed CSR portfolios (see Maignan and Ralston, 2002). But it was a particular form of CSR that they subscribed to even in its early days: a voluntarist form that reinforced executive and management autonomy to enhance profits, away, as far as practicable, from the burdensome regulatory imposts of 'big' government. Corporate law in the United States continues to support the shareholder primacy model, even if there is scope within its legal prescriptions for management executives to undertake potentially profit-sacrificing social responsibility activities (Reinhardt and Stavins, 2010: 167–8, 178).

The United States' CSR form also reflected its long-standing uneasy employment relationship. Suspicion of 'socialist', even social democratic, norms that empowered workers and their unions significantly influenced the American CSR response. European collectivism was not the American way. The United States treated with considerable suspicion a European corporatist model that includes unions as partners in political decision-making. However, former iterations of American CSR in the early 20th century were more sympathetic to workers' rights (Marens, 2013), although this changed as increasing global economic competition put pressure on profitability. Today, as Marens notes, 'the contemporary version [of CSR] puts a great deal less emphasis on the employment relationship' (2013: 471). Managerial voluntarism and executive autonomy have remained core currents in American CSR, even as its application has varied over the decades. Certainly by the 1980s management exercised significant control over the shape CSR would assume (2013: 471). The form of voluntarist CSR that prevailed also became a popular export since its norms coincided with neo-liberalism's expanded global reach.

Analysis of CSR from a political and institutional perspective is relatively underdeveloped vis-à-vis the contemporary attention devoted to the business case for CSR, which focuses on 'improved risk management, brand image, access to niche markets, improved access to capital [and] improved employee relations' (Gjølberg, 2009: 608). The business case looks inwardly, however, focusing primarily on how CSR-related changes to business practices can enhance profitability (see Blowfield, 2005; Gjølberg, 2009). For some this is manifestly inadequate since the main effects of corporate practices are external, impacting on society in wide-ranging and multifaceted ways. Indeed, 'recognising and acting on negative externalities is what corporate and social responsibility is all about' (Crouch, 2011: 5). Even so, CSR varied considerably in how it

accounted for these externalities. We next trace the evolution of CSR's various forms.

Forms of CSR

Generally speaking, CSR is initiated in three main ways: by governments, by international non-government bodies or by corporations themselves (Raufflet et al., 2014). Governments can introduce policies and regulations which mandate specific corporate practices and the reporting of those practices. International institutions such as the World Bank or responsible fund managers can establish voluntary frameworks and reporting standards such as the Global Compact or GRI which corporations are invited to follow; this is often labelled the 'infrastructure of CSR' (Waddock, 2008). Finally, CSR can be initiated by corporations themselves – generally the most popular route. They can develop voluntary and self-regulatory initiatives which they consider fit for their particular industries and preferred CSR branding. Often it is a combination of these methods, or partnerships between these actors, that shape the CSR environment.

It nonetheless took some time for the new corporate approach to sustainability to take hold, and its evolution took a number of detours. In their overview of CSR, Fleming et al. (2013) map the understanding of CSR into three main views: CSR as an inappropriate imposition on the firm's core and legal requirement of profit maximisation; as a measured response to unavoidable societal demands for improved corporate behaviours; and as a strategic, rather than substantive, response to these increased societal demands ('greenwash'). Milton Friedman is often cast as the main proponent of the first position. For Friedman 'the business of business is business', both ethically and legally. Indeed, in a modern free enterprise economy and society:

> a corporate executive is an employee of the owners of the business [the shareholders]. That responsibility is to conduct the business in accordance with their desires, which generally will be to make as much money as possible while conforming to the basic rules of the society. (1970: 122)

If the executive's 'social responsibility' actions 'reduce returns to stockholders, he is spending their money' which is unethical (Friedman, 1970: 123). A less 'crude' restatement of this position, including a reworked version from Friedman himself, acknowledges the benefits of

'enlightened self-interest' that enables 'doing good' while still making money (Fleming et al., 2013: 341).

The second area sees considerable scope for the development of co-beneficial changes to the ways corporations conduct their business in the contemporary free enterprise economy. The 'business case for CSR' adopts elements of this enlightened self-interest. As Fleming et al. (2013: 341) observe, here 'the corporation is not inherently against the interests of other parties, and indeed, might be reformed to consider the provision and protection of stakeholders conventionally thought to be outside of its otherwise narrow economic remit'. Porter and Kramer's (2011) notion of 'shared value', where the restoration of the corporation's reputation relies on creating value beyond the corporation's direct shareholders to its societal stakeholders; and Matten and Crane's (2005) idea of 'corporate citizenship', where corporations have an opportunity to undertake activities now vacated by neo-liberal states, exemplify this approach.

The third area is underpinned by considerable scepticism regarding the objectives of CSR. It is well exemplified by commentators such as Banerjee, who argues that 'despite their emancipatory rhetoric, discourses of corporate citizenship, social responsibility and sustainability are defined by narrow business interests and serve to curtail interests of external stakeholders' (2008: 51). Contrary to Matten and Crane, and other corporate citizenship theorists (see Waddock, 2008; Dunphy et al., 2007), Banerjee finds too much contradiction between societal and business goals, with corporations lacking the capacity to fill roles vacated by government, such as social welfare, if only because 'their basic function (the rhetoric of triple bottom line aside) is inherently driven by economic needs' (2008: 74; see also Korten, 1995). This view is reinforced in Wright and Nyberg's (2014) analysis of corporate myth-making. The myth of corporate citizenship, for example, 'provides legitimacy for increasing the scope of political activity' but in a manner that benefits the bottom line, rather than society as a whole (2014: 211–3). In the environmental domain at least – but replicable across a range of areas – myths such as corporate environmentalism, corporate citizenship and corporate omnipotence portray corporations as 'saviours legitimising their roles as citizens' through practices that in fact 'mirror the logics favouring corporations' (2014: 215).

Overriding these important triggers for the development of CSR is the notion that corporations also owe duties to society. Corporations have historically benefited from government support and continue to do so. They benefit through the state's provision of infrastructure – both

physical infrastructure (the industrial underpinnings of capital accumulation) and social (e.g., the provision of a skilled workforce). They also benefit more directly through attractive corporate tax rates and the limited liability protections they enjoy through their legal constitution as corporations. Depending on their specific sectors, corporations can also enjoy generous government subsidies, as well as benefit from government-funded research in their specific areas. Given these benefits and advantages, there is a growing expectation that corporations should 'give more back' to the communities in which they operate. CSR offers them a way to do this.

Another way of understanding the CSR trajectory is to map it more directly from a corporate actor perspective, at least regarding the environment. Here the trajectory can be understood as a first generation's trenchant resistance to CSR slowly giving way to more accommodation and collaboration. Writing almost 25 years ago, McEachern's (1991) three categories of business responses to sustainability remain pertinent today. His first category, the 'rejectionists', view the environment movement suspiciously, indeed as the enemy of business. Rejectionists strongly deny both that environmental 'crisis' exists and their contribution to its existence. Instead, they see environmental problems as the ammunition that environmentalists use in the larger battle to undermine both business and the capitalist order. For rejectionists, financial interests always take precedence, as befits the nature of business.

The next category, the 'accommodationists', largely subscribe to the business case for sustainability and CSR. Even if reluctantly, they acknowledge that the corporate landscape regarding sustainability has changed and that it is in their interests to jump on board, on their terms, rather than being left behind. Some observers consider that this accommodationist approach emerged in direct response to the United Nation's introduction of a Draft International Code of Conduct for Transnational Corporations in 1984, against a background of increasing demands for tighter regulation of corporate behaviour (Forbes and Jermier, 2010; Dunphy et al., 2007). Accommodation with the demands of CSR hence offered a way of repairing the corporate sector's tarnished image, particularly after a number of confronting environmental disasters such as the industrial catastrophe in Bhopal, India, in 1984. This combination of challenges pressed corporations to 'clean up their act' and rebrand themselves as much more responsible actors (O'Faircheallaigh, 2013). Accommodationists actively comply with regulations, introduce a number of eco-efficiency measures into their operations and embrace the rhetoric of CSR.

But as 'good corporate citizens' some of these businesses also go 'beyond compliance' where they can. A 'beyond compliance' approach provides considerable benefits: it signals that corporations take their social responsibilities seriously, and, importantly, lets them choose how to go about it. Jermier et al. (2006: 618) understand this new accommodationist corporate environmentalism as

> *rhetoric* concerning the central role of business in achieving both economic growth and ecological rationality and as a *guide* for management that emphasises voluntary, proactive control of environmental impacts in ways that exceed or go beyond environmental laws and regulatory compliance.

Critics contend that, while accommodationists introduce welcome improvements, their rhetoric masks the absence of meaningful change. However understood, the accommodationist category remains the largest today.

It is in the final category, the 'environmentalists', that significant corporate modernisation for sustainability occurs. Here there is a genuine and substantial attempt by corporations to address environmental and social challenges. A commonly cited exemplar for this form of 'deep' corporate environmentalism is Ray Anderson, CEO of the carpet company *Interface Inc*. His own personal ecological epiphany led to a radical restructure of a highly polluting company that reduced its ecological footprint significantly while retaining, indeed increasing, its profits (Anderson, 2009). Corporate environmentalists acknowledge the need for far-reaching change to their practices, processes and products. But they do not dismiss the co-benefits of doing so. As Anderson contends, his approach is about

> the future of business and industry, a future driven by a new and powerful idea: sustainability. Specifically, it deals with what it takes to run a profitable, modern business with the environment in mind ... It is about a new business model that can generate not just bigger profits but better, more legitimate, ones too. (2009: xi)

Finally, we can combine elements of the typologies thus far considered by categorising CSR into its 'soft' or 'hard' forms. Like EM, CSR too contains a spectrum of positions which are often conceptualised as soft (or soft law) and hard (or hard law) forms. Soft CSR is populated with accommodationists who subscribe to the business case for CSR. They

manage risk through a strategic response to the increasing demands of ethically and environmentally well-informed publics. Here boycotts and protest actions are acknowledged as injurious to business. Not only do they tarnish corporate brands, but the delays they cause can also prove financially costly. To this degree, CSR can be seen as a strategic attempt by the corporate sector to exercise control over these new challenges to its autonomy.

Nwete labels this a 'soft law' approach. He observes that these developments have led to the establishment of 'a body of soft laws rather than hard law for businesses, aimed at holding corporations minimally accountable … [through] a plethora of national, regional and international norms, guidelines, codes, covenants and declarations' (2007: 326). Understood this way, soft law CSR is a form that fundamentally upholds corporate power, even as it tinkers at the edges. Mirroring mainstream EM, soft CSR commits to generating a range of voluntary initiatives that would not require too sweeping a change to business as usual (Utting, 2005: 375). Conceptualised this way, CSR activities continued apace so that by 2005, 85 per cent of senior executives and institutional investors considered CSR a centrally important factor in their business' decision-making activities (Juno Consulting, 2005). In 2015, this kind of CSR is a well-established feature of the corporate environment.

CSR's 'harder' counterpart, like a stronger EM, commits to more comprehensive corporate and structural change. We would likely find Ray Anderson among this cohort. The corporate accountability, or corporate responsibility, movement goes some way towards exemplifying this harder CSR (see Bendell, 2009; Dunphy et. al., 2007). Distinguishing themselves from a 'softer' CSR, these corporate accountability actors believe that corporations should give more back to the community from which they draw considerable benefits. Some go further, calling CSR a movement that, like many social movements before it, has the capacity to fundamentally transform society for the better. For Bendell, the CSR movement offers just this promise: he claims that, over the years, we have

> witnessed the emergence of the corporate responsibility movement as a loosely organised but sustained effort by individuals both inside and outside the private sector, who seek to use or change specific corporate practices, whole corporations, or entire systems of corporate activity, in accordance with their personal commitment to public goals and the expectations of wider society. Moreover … this movement is working in diverse ways on a common agenda to democratise economic activity and [create] a 'capital democracy'. (2009: 4)

Central to a harder form of CSR is a more collaborative government-business relationship, and more robust government agency. A harder CSR demands stronger accountability and transparency measures in corporate practices, and would be prepared to work with governments to establish these requirements. While soft CSR favours 'quasi-legal instruments, which do not have any [or very weak] penal and binding forces', hard law demands a more robust regulatory environment with binding legal requirements and stronger sanctions for non-compliance (see Nwete, 2007: 327, 335). While soft CSR prefers an arm's length relationship with government, hard CSR seeks positive environmental partnerships. Dunphy et al. (2007) sketch what a transition from soft to hard CSR – or in their terms, a transition to a 'sustaining corporation' – would look like. They outline three clear 'waves'. Like McEachern's rejectionists, the first wave sees corporations mounting either outright opposition or persistent resistance to pressures for environmental reform. The second wave sees corporations beginning to introduce some soft CSR measures, if only to minimise sanctions and save money. The third wave begins to approximate a harder CSR. This stage sees 'the sustaining corporation' undergoing considerable normative transformation so that '[e]nvironmental best practice is espoused and enacted because it is the responsible thing to do ... [and] nature is valued for its own sake' (Dunphy et al., 2007: 17, 27–8). We turn next to the rising trend of CSR reporting, which is a main focus of the infrastructure of CSR today.

CSR reporting

CSR reporting has today assumed an increasingly important role. While CSR may not be universally embraced, most large businesses agree that the practice is unavoidable, for many of the reasons discussed above. The debate has hence turned to how best to express CSR and measure it. In an increasingly competitive marketplace, many corporations see a distinct commercial advantage in showcasing their CSR credentials. Trust is an important component of business success today. One of the ways that trust can be acquired and sustained is through a company's *evidenced* commitment to social and environmental goals. Effective reporting helps achieve this objective.

There are a number of reporting standards, such as the International Standard Organisation's ISO 26000 Social Responsibility Standard, the Dow Jones Sustainability Index and, more specifically, the Carbon Disclosure Project. By far the best known are the GRI and the United Nations Global Compact. These standards have generated a stronger

investor focus on a company's environmental performance as well as creating a sub-industry in specialised sustainability reporting within firms. Importantly, these standards share the view that there are universal principles that apply to all businesses worldwide (Chen and Bouvain, 2009: 302). Like the GRI, the Global Compact seeks to encourage business to adopt stronger social and environmental responsibility measures and, importantly, to report on them. The GRI and the Global Compact incorporate a number of core principles in the areas of human rights, labour rights, environmental protection, and transparency and anti-corruption measures. Global Compact principles are directly sourced from some key United Nations global agreements, including the Universal Declaration of Human Rights; the International Labour Organisation's Declaration on Fundamental Principles and Rights at Work; the Rio Declaration on Environment and Development; and the United Nations Convention against Corruption (United Nations Global Compact, 2014). In the next section we focus on the GRI.

The GRI is viewed as the 'gold standard' of sustainability reporting. In partnership with the United Nations Environment Programme (UNEP), the GRI's mission is to make effective sustainability reporting routine company practice. Established in 1997, the GRI's specific goals include standardising sustainability reporting, providing reporting training and outreach, contributing to sustainability reporting policy and promoting the development of integrated reporting (GRI, 2015). The Initiative has achieved considerable success over a relatively short period. In 12 years, the proportion of the world's largest corporations that practice sustainability reporting has grown from 35 to 95 per cent in 2013, even if that figure is considerably smaller among publicly traded companies (KPMG, 2013: 6). The Initiative also recognises that governments' regulatory support enhances their own mission. Governments benefit from effective reporting as it protects their national economies from risk and boosts their own electoral profiles (2013: 8–9). This helps explain a trend that the Initiative hopes to consolidate: an increasing shift towards combining voluntary and mandatory approaches to 'organisational disclosure' so that corporate governance, finance and sustainability reporting become both integrated and the norm (2013: 9).

Almost 80 per cent of reporting companies worldwide use GRI reporting guidelines, a percentage that is even higher among some of the world's largest corporations (KPMG, 2013: 11). Higher outcomes, or 'scores', are achieved by European companies vis-à-vis their American and Asia Pacific counterparts (KPMG, 2013: 14). But there are also considerable gaps in performance by different sectors. While pharmaceutical,

mining and electronics sectors tend to score highly overall, a more layered analysis reveals that highly polluting sub-sectors such as oil, gas, metals, manufacturing and construction tend to perform poorly relative to others (2013: 14). A particularly disquieting finding is the poor performance of supply chain management in the mining and clothing sectors – sectors that carry 'potentially catastrophic social and environmental risks' (2013: 18).

DeLorenzo (2014) has outlined a number of recent and important trends in CSR reporting, several of which we highlight here. First, major companies have increased their reporting rates significantly from 20 per cent in 2011 to 72 per cent in 2013. Second, in acknowledgement of beyond compliance commitments, many companies that do report are not required to do so. Sustainability reporting is not required in the United States (although moves are afoot for stronger disclosures); but companies that do report are seen as leaders in their field. Third, there has been some progress towards the standardisation of CSR reporting, considered critical to generating valid comparisons of company performance. Integrated reporting, which holistically combines financial and sustainability reporting, is considered to provide maximum reporting effectiveness.

PricewaterhouseCooper's recent survey of CEOs of major companies reiterates DeLorenzo's findings (PWC, 2014). The survey notes:

> The digital revolution has put more power in the hands of more people than ever before. Collaborative networks are replacing conventional corporate modes of operating. Consumers are swapping information and advice on the virtual airwaves. And citizens are assuming the journalist's mantle. (2014: 10)

Importantly, by better reporting their firm's impact on the social landscape 'there will be a pay-off for those that get it right'; indeed, those companies that 'come up with innovative solutions to serious social issues will earn more revenues and more trust' (2014: 11). However, while the survey finds that most CEOs 'already recognise that business has social as well as financial responsibilities', it also finds that there is a shortfall in the effective measurement of the 'full impact' of a company's activities, or what they label 'looking at the whole footprint' (2014: 33). As one CEO commented:

> There are three pieces of paper which ultimately determine how healthy a company is today in the eyes of the financial market: a

> balance sheet, a P&L and a cash flow statement. But these are three documents which don't tell you very much about the overall impact of that business. So, we desperately need to develop a system to try and measure and quantify and communicate the wider stakeholder engagement. (2014: 35).

This has additional benefits beyond the reputation of individual firms. Altogether, the reporting sector hopes that these trends signify a growing commitment to more robust reporting, which would in turn help mitigate the damaging charge of 'greenwashing' – of corporations as all 'talk' and no 'walk'.

Despite these considerable developments in the CSR reporting domain, not all are convinced of corporate reporting's salience, whether voluntary or mandatory. Nor are they convinced that the corporate sector has gone beyond 'greenwash'. They remain suspicious of a strategy that they consider masks corporate hegemony (see Banerjee, 2008; Wright and Nyberg, 2014). According to these views, sustainability reports and other corporate documentation allow corporations to highlight, and make much of, their listed achievements. But there is also a strategic intent. In reality, their listed achievements are often the 'low-hanging fruit', with more challenging and often more effective responses to social and environmental problems, omitted. This allows corporate legitimacy to be 'claimed through self-regulation, marketing, and public relations' (Wright and Nyberg, 2014: 212). A fierce debate nonetheless remains within the business community over whether reporting should be mandatory or voluntary. Even among reporting's proponents, mandatory reporting can represent a step too far. This resistance also emerges in the European context that we turn to next, despite Europe being seen as a relative exemplar in the social responsibility domain.

CSR, the European Union and corporatist Germany

In response to the accelerating global phenomenon of CSR, the European Commission has recently set out to prescribe a distinctly European form, one that goes beyond the already well-established global environmental and labour standards that it largely subscribes to. In preparation for its own contribution, at both the national and European level, Germany has consulted widely among company, government, labour, NGOs and other community representatives. The German National CSR Forum, established in 2009, was tasked with formally exploring the CSR issue in Germany. Their findings and recommendations helped form the basis

of the German government's first 'Common Understanding of CSR in Germany' – the 'National Strategy for Corporate Social Responsibility: Action Plan for CSR' – in October 2010 (Edele, 2012). The Forum highlighted the centrality of sustainable development goals to CSR from the outset, with 'CSR … understood as an important contribution that companies can make toward sustainable development in the fields: market, environment, workplace and community' (National CSR Forum, 2010: 5).

In its Preliminary Remarks, the Action Plan begins with the premise that 'CSR is a fundamental element in the country's social market economy system'; it offers Germany 'a means to boost the competitiveness of companies on a long-term basis' while finding 'solutions to social challenges which could not have been achieved through policy measures alone' (Edele, 2012). In keeping with standard CSR norms, the Action Plan emphasises the voluntary nature of the recommended measures, noting that CSR is an 'integrated corporate concept that encompasses all the social, environmental and economic contributions a company makes as part of its voluntary assumption of social responsibility which goes beyond compliance with laws and regulations and incorporates interaction with stakeholders'. It further notes that these voluntary measures build on Germany's already demanding regulatory and legislative requirements in the areas of social, labour and environmental standards. The strategic objectives of the CSR Action Plan are to:

- Anchor CSR more firmly in enterprises and public bodies
- Win over even more small and medium-sized enterprises for CSR
- Increase the visibility and credibility of CSR
- Optimise the political framework for CSR and
- Make a contribution toward shaping the social and environmental dimension of globalisation. (Edele, 2012)

With Germany hosting a large number of small and medium enterprises, the application of CSR in Germany can be challenging. CSR traditionally targets large corporations, hence a wide-ranging application of CSR in Germany requires it to develop a form that can be appropriately applied at the small to medium enterprise level. Encouraging CSR reporting in public bodies and state-owned enterprises is also considered important, which would in turn raise CSR's visibility and credibility, and ensure a higher degree of transparency for consumers. According to the Forum, this increased transparency would represent a 'win-win' for the

German economy through promoting 'a positive image of Germany's social market economy abroad' (Edele, 2012). This would ultimately contribute to 'boosting Germany's ability to compete for qualified skilled workers, investment and market share' (2012). The Forum considers the political sector critical to the creation of an effective framework for CSR. A successful CSR form would create sustainable market conditions that 'can be profitable for society and companies', reflecting the fact that 'strategic CSR' has increasingly become 'a criterion for competitiveness' (National CSR Forum, 2010: 5). The 'CSR – Made in Germany' logo seeks to do just that.

The Action Plan was generally welcomed, particularly for the support it provided for some important CSR tenets, among them:

> the fair treatment and involvement of a company's employees, the prudent and efficient use of natural resources, the positive contribution to the community, the guarantee of socially and environmentally responsible operations along the whole value added chain, and the support of human rights and ILO core labour standards and their observation on an international level. (Thannisch, 2012)

Nonetheless, the Forum and the Action Plan argued strongly that CSR should remain voluntary. Their failure to recommend binding reporting and transparency measures that better monitor corporations' CSR compliance has proven contentious. This is despite the defence that while 'CSR is voluntary' it is 'not arbitrary' (National CSR Forum, 2010: 4).

The European Union Commission released its own CSR strategy in 2011 with an agenda for action between 2011 and 2014. At the outset the Commission proposed a new definition of CSR. It argued that CSR, previously understood as 'a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis', be understood as 'the responsibility of enterprises for their impacts on society' (European Commission, 2011: 3, 5). In short, it sought to give CSR more enforcement bite. Despite ongoing reluctance from many member states, the European Parliament was pressed to pass a controversial new ruling in March 2014 that mandates major companies to report on their social, environmental and human rights impacts in their Annual Reports (see Howitt, 2014). This change from voluntary to mandatory status was fiercely debated, with many corporations and countries viewing this potential shifting of the CSR goalposts with alarm. This alarm triggered an opposition that was ultimately successful in diluting the measures.

It was strong opposition from European countries such as Germany, the United Kingdom and Poland that contributed to this dilution, with amendments ultimately giving companies more flexibility in how they undertook their reporting. Prompted by the understanding that CSR would only work if it was voluntary, negotiations finally agreed that mandatory requirements would apply only to a limited number of large companies; companies would be able to select their reporting indicators and standards (thus nulling effective comparisons between companies); and reports would be audited rather than verified, but – significantly – with no sanctions for uncompliant businesses (Chaplier, 2014; see also Beier, 2012).

For advocates of mandatory reporting, the 'weak wording and loopholes' that eventually prevailed would 'prevent meaningful change', rendering the new ruling a hollow victory for those long championing the girding of CSR with regulatory and legislative bite (Chaplier, 2014; see also Howitt, 2014). Even so, as Chaplier (2014) writes, this should not overlook an important first step that could be built upon in future:

> The potential is there. After a heated stand-off, the deal done in Brussels will enshrine a duty in law to report on the non-financial impacts of business activities. Some 6,000 large companies will be required to report on their policies on diversity, social issues and on corruption, as well as the risks they pose to human rights and to the environment, including through their supply chains. As such they will be making themselves accountable not just to their shareholders, but to stakeholders as well.

In short, while imperfect, this remained a 'landmark decision in the quest for corporate accountability over many decades' (Howitt, 2014).

That Germany supported such modifications was somewhat ironic, given the acclaim that many large German companies enjoy for their social responsibility rigour. This rigour was built in part, as we saw, by their strong environmental performance and effective stakeholder relationships with both workers and communities, often as a consequence of the structure and operation of Germany's social market economy. But, as Beier (2012) observes, Germany's resistance may have in fact resulted from another reason altogether: the significant proportion of small and medium enterprises that constitute its economy; indeed,

> the backbone of the German economy is not large multinational companies, but small and medium-sized companies (SMEs) that

represent 99.7 percent of all businesses and provide up to 60 percent of all jobs in Germany. Non-financial reporting may be difficult for these companies, as they often lack the data and financial resources for third-party verification of their sustainability reports.

As it stands, European companies overall achieve some of the highest sustainability report scores in the world, with an average rating of 71 compared to the United States' 54 and the Asia Pacific region's 50 (KPMG, 2013: 14).

We turn finally to an illustration of the potential impacts of contemporary CSR in the broad area of climate change.

CSR and climate change

The problem of climate change is central to most CSR portfolios today, just as it is in the sustainability domain. Much contemporary CSR highlights a commitment to SD, which routinely includes measures for addressing climate change. At the very least, most corporations profile their energy efficiency measures and their recycling efforts. Others will point to their use of renewable energy, investment in eco-efficiencies and technological innovations, and modernised operational practices that help reduce emissions. These measures will differ considerably according to the nature of the business activity, and the regulatory expectations of the nations and regions companies operate in. Of course, how effective even robust eco-efficiency measures are in mitigating climate change remains contentious – representing, for some, the 'lower hanging fruits' of CSR reporting. In a study of the supermarket sector, for example, Sullivan and Gouldson (2013) find that while there have been considerable emissions reductions and improvements in energy efficiency, at the end business growth outstrips any efficiency gains; in short, despite any best corporate efforts, over time emissions will rise rather than fall (2013: 733). We observed similar findings in our discussion of EM.

Hart (2014: 374) has summarised some of the factors that influence the corporate position on climate change. Factors in the external commercial environment include the nature of the industry and its geographical location; the overarching regulatory and policy environment; and civil society pressures including from investors, consumers and various NGOs. Industry factors take into account the industry's technological and competitive position, and the industry's growth and concentration levels. Company-specific factors comprise its supply chain and market

positioning, and the degree of (de)centralisation and internationalisation of its management hierarchy. Finally, on a broader corporate level, factors include the company's risk management approach, its corporate culture and its stakeholder relationships. In short, companies consider a wide range of variables and exercise considerable managerial discretion in how they manage the risks and opportunities of climate change. Nonetheless, Hart contends that it is likely that 'ongoing government, stakeholder and shareholder pressure will encourage companies to explore the full range of options, and adapt their climate change strategy in response to changes in external and company-specific factors' (2014: 388).

The CSR spotlight falls most heavily, of course, on energy-intensive industries and the fossil fuel sector in particular. These industries and sectors are those that contribute the most to, and hence are most challenged by, climate change. Increasingly the target of environmental protest, they are also those sectors most pressed to reform and restructure. The regulatory environment at global, regional and national levels, and the different reporting expectations impact significantly on these sectors' CSR response. The European emissions trading scheme, for example, offers those corporations operating in the region specific opportunities to respond to climate change. But CSR also offers the mining companies the opportunity to apply standards that are defensible in a range of settings. Oil, gas and coal industries, in particular, operate in a diverse range of institutional settings in both the developed and developing world. This has prompted them to utilise CSR practices as standards they can apply across these diverse contexts (Raufflet et al., 2014). Government-led regulations and broader societal expectations have helped to create a 'hybrid regulatory regime' that applies directly to the extractive industries sector (2014: 1). These hybrid arrangements include closer interactions between international organisations and political, company and civil society actors in the development of regulatory practices underpinned by internationally applied standards (2014: 2; see also Waddock, 2008). The success of these strategies in protecting these industries from protest and brand damage varies considerably.

But for an increasing number of social actors, this focus on standards and eco-efficiency growth comes nowhere near the sectoral restructuring needed to seriously address the climate crisis. Utilising the very logic of CSR itself, a recent campaign seeks nothing less than retiring the fossil fuel sector altogether. We turn next to the fossil fuels divestment campaign to illustrate the growing trend of shareholder and community activism regarding the social responsibility expectations of firms.

Divestment and stranded assets

Over the past few years a fossil fuels divestment campaign, which seeks to starve the fossil fuel sector of investor funds, has gathered pace. This is against the background of the growing trend towards ethical and sustainable investment which, while small, is growing rapidly, and has already produced some strong returns for 'green' investors (Blackburne, 2013). The divestment campaign directly targets investors – individual, public and corporate – and seeks to convince them to stop investing in fossil fuel holdings. While the impact of such a campaign on share prices is contested, it nonetheless prompts investors to consider their shareholdings and the ethical nature of fossil fuel investment as a whole. This attention on fossil fuel companies is generally unwelcome. In terms of large-scale investors such as universities and superannuation funds, the divestment campaign targets these institutions' own CSR claims by challenging their willingness to invest in sectors that contribute to societal damage.

The overarching goal of the divestment campaign is a very ambitious one: to turn fossil fuel investments into 'stranded assets', whose worth is so significantly diminished that the industry eventually closes down. As Ansar et al. (2014: 9) observe, the more specific aims of the fossil fuel divestment campaign are to 'force the hand' of companies and governments so that companies undergo 'transformative change' and governments begin introducing the robust climate policies necessary to avert climate disaster. But the most significant impact – and strategy – of the divestment campaign is the 'stigmatisation' effect – which goes to the heart of CSR's trust and legitimacy claims:

> Even if the direct impacts of divestment outflows are meagre in the short term, a campaign can create long-term impact on the enterprise value of a target firm if the divestment campaign causes neutral equity and/or debt investors to lower the subjective probability of target firm's net cash flows. The outcome of the stigmatisation process, which the fossil fuel divestment campaign has now triggered, poses the most far-reaching threat to fossil fuel companies and the vast energy value chain. Any direct impacts pale in comparison. (Ansar et al., 2014: 13)

Other studies highlight similar findings. Doh et al. (2010), for example, find that investors increasingly rely on expert institutional assessments of companies' social and ethical practices in choosing their investment portfolios. Their analysis indicates that 'institutional intermediaries

influence market assessments of a firm's social responsibility and highlight the importance of the legitimacy-conferring function of expert bodies in understanding the relationship between social and financial performance' (2010: 1461). In short, better informed shareholders will seek out a company's reputational assessment alongside its financial one in determining their investment choices.

Large banking corporations are often the targets of these campaigns. This is in part because many of these financial corporations are signatories to the Equator Principles, a set of CSR-related environmental and social risk guidelines that direct investment behaviour in the finance sector (see Equator Principles, 2015). To this end, banks and other financial corporations are challenged to apply their own principles to their assessments of new projects. This requires them to give greater attention to the social and community impacts of new projects, including an increased focus on labour standards, indigenous rights, effective consultation and social and environmental integrity standards. Multilateral development banks such as the European Bank for Reconstruction and Development and export credit agencies are increasingly utilising these principles as part of their project assessment process (Equator Principles, 2015). As one observer commented: 'If a bank can be a signatory to a "gold standard" in environmental risk management and still fund [problematic] projects, it calls into question [both] the bank's environmental credentials – and the credibility of the Equator Principles themselves' (Milman, 2014).

Two recent divestment decisions – one by a major global institution, and the other, a national one – highlight the diffusion and variety of the divestment strategy. In early 2014, World Bank President Jim Yong Kim reinforced the divestment campaign by announcing his support for such a strategy. The bank had previously announced that it would not fund large-scale coal projects 'except under exceptional circumstances'; and similar measures on new coal-fired power generation were declared by development banks in the United States, Scandinavia, Europe and the United Kingdom (Swann and Denniss, 2014). In announcing such commitments, the World Bank President declared that

> We need leaders who are not thinking about short-term returns or election cycles ... Through policy reforms, we can divest and tax that which we don't want, the carbon that threatens development gains over the last 20 years ... Financial regulators need to lead ... Sooner rather than later, they must address the systemic risk associated with carbon-intensive activities in their economies ... by enforcing

> disclosure of climate risk and requiring companies and financial institutions to access their exposure to climate-related impacts. (Yong Kim, 2014)

Similar strategies have been adopted nationally, as illustrated by the controversial divestment strategy undertaken by one of Australia's top universities in 2014, when the university unexpectedly announced it was removing its fossil fuel holdings from its share portfolio. To seemingly equal measures of acclaim and censure, the Australian National University decided to divest itself of $AU16 million in 7 fossil fuel-related shareholdings. While only a small proportion of its overall portfolio, the decision nonetheless represented a deeply symbolic gesture. The move sought to demonstrate the university's commitment to its CSR credentials, and its positive response to the campaign waged by its 'stakeholders' – many of them students – over time. The vice-chancellor defended the decision in both ethical and pragmatic terms, claiming that it was not only socially responsible but also a sensible financial decision. In terms of the latter, he was confident that fossil fuels would not be a large part of the world economy in the medium term:

> The real debate for Australia should be about jobs in a carbon-constrained world. What will our industries be in 20 or 30 years' time? I am confident they will not be in producing fossil fuels. ... There has been growing sentiment from our community to not just get a good financial return from our investments but also to invest in companies which would have activities consistent with the goals of the university, and do not manifestly cause social harm. For instance, the university for many years has not, and would not now, invest in tobacco. (Young, 2014)

While the Australian National University is the first university in Australia to divest in this manner, a number of universities in the United States had already done so. The campaign seeks to convince many other institutions, beyond the university sector, to also do so.

Conclusion

This chapter has examined the complex set of factors that have driven the turn to CSR, as well as CSR's own complex politics. CSR is both a central feature of the contemporary free enterprise economy and a key discourse in the sustainability domain. In just over two decades, CSR

has also developed into a burgeoning academic sub-discipline in its own right. Like EM, CSR emerges at the intersection of several pivotal social and economic developments – particularly the advents of globalisation, neo-liberalism and environmentalism – which shape it in important ways. But the state too remains a critical actor in this new environment, despite some claims to the contrary. Not only do corporations rely on the institutional and legislative infrastructure that only governments can provide, but there is also no such thing as complete autonomy for a company. Nor do they necessarily want there to be, since many corporations continue to rely on the financial and regulatory largesse of governments. As Gond et al. (2014: 516) point out, while companies may champion autonomy and self-regulation, self-regulation does not automatically denote an absence of regulation, or an absence of government involvement.

Yet there is no denying that in an age of neo-liberalism the firm has also 'stepped out from being governed by the market' to being a 'political actor in its own right'. As Crouch contends:

> The representatives of today's [transnational corporations] are not in the lobby, outside the real decision making space of government ... They are right inside the room of political decision making. They set standards, establish private regulatory systems, act as consultants to government, even have staff seconded to ministers' offices. (2011: 131)

The flip side of this is that as the corporation becomes more political, more attention is paid to it – which is not always welcome. This includes being a target of political action by more watchful civil society actors, as well as the target of enhanced expectations by governments themselves. Hence, CSR is not simply what occurs outside the boundaries of the state; rather, even in its self-regulatory form, it 'is facilitated by government, coordinated in partnerships with government, and mandated – either directly or indirectly – by government'; in short CSR functions 'alongside' government (Gond et al., 2014: 516–7). But the ideological persuasions of governments also matter a great deal. They contribute significantly to both the shape and substance of CSR, just as they do with EM.

This chapter completes Part I of the book. We turn now to the case study chapters in Part II to examine how EM and CSR play out in our three case studies: on climate, unconventional gas and renewable energy.

Part II

Practising Contemporary Sustainability

4
The Politics of Climate Change: Fight and Flight

Introduction

Climate change is both a major environmental problem and a major political problem. Addressing climate change challenges established economic patterns and interests, as well as the corporate cultures that guard those interests. The climate problem has been on the global radar for several decades now, with most governments and many corporations having climate action plans in place – albeit the effectiveness of these plans remains contested. A successful response to the climate problem requires, as a minimum, the kinds of modernisation strategies ecological modernisation (EM) promotes and the measures the corporate sector nominates as central to its social responsibilities. Yet the evidence thus far points to the contrary; warming is in fact accelerating, and at rates that are increasingly alarming (WMO, 2014; IPCC, 2014; Cai et al., 2014).

The overwhelming scientific consensus is that if the world is to avoid catastrophic climate change, temperature rises need to be contained to an absolute maximum of two degrees above pre-industrial levels by 2050 (IPCC, 2014). Even at two degrees, significant warming will have already occurred, which will require large-scale investment in climate adaptation. The possibility that warming could top three or four degrees raises much starker prospects (see Christoff, 2014a). According to the 2014 Intergovernmental Panel on Climate Change (IPCC) 'Emissions Gap Report' (EGR), to contain temperatures to two degree will require a global emissions reduction target of 55 per cent from 2010 levels by 2050 and zero net emissions by between 2080 and 2100 (UNEP, 2014). This mirrors the findings and recommendations of the IPCC's 'Fifth Assessment Report' (2014). Some countries are boosting their emissions

reductions efforts considerably, while others are beginning to make some reasonable progress. But others still are expected to increase their emissions, including the rapidly expanding major economies of China and India. The global climate talks in Lima, Peru in December 2014 provided limited optimism for achieving the 2 per cent target, with key decisions and details deferred to the Paris talks at the end of 2015. Importantly, however, all developed and developing countries have agreed, for the first time, to commit to emissions reductions.

Global warming is a collective problem underpinned by difficult justice considerations. But activating a collaborative and collective effort in a world of nation states devoted to advancing their interests, and competitive businesses to advancing their profits, is a very difficult task – as the ongoing global climate negotiations well illustrate. This is where the collective promises of corporate social responsibility (CSR) and EM, robustly applied, hold out much hope for turning the climate predicament around. As we saw in Chapter 3, the European Union (EU) and individual European states such as Norway, Sweden, the Netherlands and Germany have long utilised EM's logic in their sustainability drive. In late 2014, the EU agreed on a target to cut greenhouse gas emissions by at least 40 per cent from 1990 levels by 2030, with individual states such as Germany making significant contributions to this goal. Emissions trading schemes (ETS) are a central tool for achieving emissions reductions. Despite implementation problems, the EU's ETS remains a leader in this domain. The EU ETS incorporates programs increasingly utilised by other actors set on reducing emissions: a cap and trade scheme that allows businesses to trade their allocated emissions permits; and a carbon credit scheme linked to offset projects usually located in developing countries (see Talberg, 2013: 9–11).

European countries have long been considered the leaders in climate reform, while countries such as the United States and Australia, on the federal level at least, have often been regarded as 'laggards'. This disrepute was largely gained by the latters' refusal to ratify the Kyoto Protocol. But federal policy is not always state policy. Some American states have been pioneers in climate policy, and in Australia a number of states have invested heavily in renewable energy schemes. But at the federal level, the climate policy trajectory in the United States has been a very fractious one, and in Australia commitment to climate policy has ebbed and flowed, often controversially and combatively.

This chapter focuses on the climate politics of the United States and Australia. The energy intensive profiles of these two countries form an important part of their stories – albeit not the entire story. Both countries

contain an influential fossil fuel lobby with strong bi-partisan links to government. They also share a CSR form strong on voluntarism and self-regulation. The norms and strategies of EM are not part of these two countries' formal policy discourse in the way they are in European countries. Yet informally, the Obama administration has recently taken a decidedly EM route towards climate reform. And in Australia, tentative steps down a similar road were taken a few years ago, before being halted, indeed reversed, by an incoming conservative government. An exploration of these two countries' experiences in the climate domain tells us an interesting story about the interactional dynamic between EM and CSR and the fraught politics that underpin it. For each country, the chapter first provides some necessary background before turning to the specifics of its climate policy trajectory and the politics, including those of EM and CSR, that drive it.

Climate politics in the United States

United States President Barack Obama assumed the presidency in 2008 with a promise to address climate change. His first-term agenda set out to do this before being derailed by an obstructionist Congress determined to deflate his ambitions. His second term is likely to prove even more difficult, especially after significant Republican gains in the 2014 mid-term elections. Nonetheless, his administration's resolve to reset the climate policy agenda in his second term was dramatically illustrated by his surprise announcement in November 2014 of a secretly negotiated agreement with his Chinese counterpart Xi Jinping that committed both countries to significant emissions reductions by 2025. As the world's two largest emitters, this agreement offered hope for rebooting a stalled global consensus on climate change. While light on specifics, the Chinese leader shifted his previously reluctant nation – now the world's largest emitter – to a central position in negotiating a future agreement. For the first time, China agreed to cap its emissions by 2030 and increase its proportion of zero-emission energy sources to 20 per cent by 2020; at its end of the bargain, the United States has promised to cut its emissions to between 26 and 28 per cent below 2005 levels by 2025 (Taylor, 2014a). These plans begin to match the EU's heftier target of 40 per cent reductions by 2030.

President Obama outlined a promising vision for future climate action at the G20 Summit in Australia at the end of 2014. He ensured, through a range of announcements and speeches, that climate change was a centrepiece of the G20, much to the chagrin of an Australian

government which had hoped to keep it off the agenda. In a widely reported speech at the University of Queensland, the president placed climate change at the heart of his country's, and the world's, ambitions for the future. He urged young people to 'keep raising their voices' and challenge 'entrenched interests':

> It is in the nature of the world that those of us who start getting grey hair are a little set in our ways. That interests are entrenched (sic). Not because people are bad people, it's just that's how we've been doing things and we make investments and companies start depending on certain energy sources and change is uncomfortable and difficult. (in Burke, 2014)

Taken together these developments significantly boost the possibility of reaching a more fruitful climate outcome at the upcoming United Nations Conference of the Parties (COP–21) in Paris in late 2015. But while the president's lofty words may have impressed his Australian audience, this was far from the sentiment at home.

As one of the world's top emitters – only recently losing its 'top' spot to China – climate reform in the United States is critical to the global effort. Its difficult climate politics in the 1990s and 2000s confined the United States to climate pariah status, at least on the international stage. This status was built on its failure to ratify the Kyoto Protocol and to commit to robust targets in subsequent global climate meetings. From 2001 to 2009 the George W. Bush administrations weakened America's climate commitment by focusing on reductions to emissions intensity rather than on cuts per se. More positive steps were resumed with the advent of the first Obama administration. At the Climate Summit in Copenhagen in 2009, for example, the United States committed to reducing its emissions by 17 per cent from 2005 levels by 2020. While still a modest target, there was a sense that the resistance to global agreements was beginning to thaw.

Even so, the long-standing view that the United States has been a consistent laggard in the climate stakes can be misleading. The pariah impression has been reinforced by the persistent focus on federal climate policy, a focus that can overlook the extensive climate-related policies that have been undertaken at the state level – a key hub of climate activity in the American federation. A number of American states have their own ETS arrangements in place, or are members of the Regional Greenhouse Gas Initiative (RGGI); these include California, Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York,

Rhode Island and Vermont (see Talberg, 2013). Some states have also invested heavily in alternative and renewable energy technologies. For Rabe (2006: 14), the American context for climate policy is 'far more complex – and far less fruitless – than many conventional depictions would suggest'. While the important question of adequacy remains, McNeil and Paterson contend that, over the past few years in particular, there is sufficient climate policy activity occurring in the United States, both sub-nationally and nationally, to 'not justify the common claims either that there is no action in the United States on climate change or that neo-liberal states focus climate policy implicitly on market-mechanisms or commodification schemes' (2012: 232).

In 2009 the first Obama administration introduced the *American Clean Energy and Security Act* – more commonly known as the Waxman-Markey Bill – which, among other features, established a national ETS. The bill narrowly passed the House of Representatives in July 2009, but was rejected in the Senate the following year. The seeming near impossibility of charting climate reform through the congressional route prompted the Obama administration to change strategy. The new strategy contained two interrelated elements: a shifting of the discourse away from the 'taboo' term 'climate change' to that of 'clean energy'; and a stronger pursuit of the regulatory route and executive actions (Kincaid and Roberts, 2013: 46–7). A security discourse augmented this approach. As Hayes and Knox-Hayes (2014) argue, the successful undermining of climate science in America as a key justification for climate reform has prompted its substitution with national security. In short, the United States' climate approach is now presented as a 'clean energy future' that offers the prospects of energy security, economic prosperity and energy independence.

In June 2013, the Obama administration issued 'The President's Climate Action Plan' (White House, 2013). The plan contained a wide range of executive actions and focused on the clean energy transformation discussed above. It was nonetheless received sceptically by those opposed to climate action, and welcomingly, if somewhat disappointedly, by those wishing to see a more robust stance. The head of World Wide Fund for Nature UK, for example, applauds the plan's identification of 'executive branch actions' as critical, 'rather than waiting any longer for Congress'; furthermore, the president 'correctly sees this as an all-hands-on-deck moment requiring a government-wide plan, including action on pollution from the largest source of US emissions – existing dirty power plants' (in Hickman, 2013). Electricity generation, particularly from fossil fuel sources, constitutes a significant proportion

of carbon emissions for many countries, and this is clearly the case in the United States.

The president can claim some progress even at this early stage, as we discuss in a subsequent section. Yet whether this progress matches the rhetoric remains a contentious matter. In his second inaugural address in January 2013 President Obama proclaimed that

> We, the people, still believe that our obligations as Americans are not just to ourselves, but to all posterity ... The path towards sustainable energy sources will be long and sometimes difficult. But America cannot resist this transition, we must lead it. (White House, 2013: 4)

However, as Hickman (2013) observed, 'Obama, as ever, scored highly on inspiring rhetoric ... But details matter when it comes to climate and energy policies. And details were lacking in his speech'; the United States is, in short, 'still making baby steps when huge strides forward are required'. Political observers agree that President Obama has identified climate change as his second term's 'legacy' policy, and has begun a serious reform program, although his ambition will need to be expanded if significant progress is to be achieved. Nonetheless, away from a strong media focus on global climate negotiations, the Obama administration has introduced a range of regulatory measures that aim to override the resistance to climate reform, and which go some way towards ecologically modernising the American economy. However, before we turn to the political dynamics of this new-found modernisation, we need to step back in time to consider the fruitful beginnings of environmental policy legislation in the 1970s, a beginning from which the Obama administration draws in executing its modernisation push.

The National Environmental Policy Act

The National Environmental Policy Act (NEPA) (1970) has been the United States' progressive landmark environmental act. Introduced to considerable acclaim over four decades ago, it is often referred to as America's environmental Magna Carta. The act requires that federal agencies incorporate environmental values and principles into their decision-making by considering, through mechanisms such as environmental impact assessments, the effects of proposed developmental activities on the environment. Understood this way, NEPA was 'the big legislative step that led to the cornucopia of 1970s legislation' (Hansen and Wolff, 2011: 236). This cornucopia included a number of important statutes, but the *Clean Air Act, the Clean Water Act*, the Safe Drinking Water Act

and the Resource Conservation and Recovery Act are among the most significant. The *Clean Air Act* alone is considered by some legal experts to be 'the most powerful environmental law in the world' (Davenport, 2014). All these acts have been used, and continue to be used, to considerable effect by federal political leaders set on environmental reform. The Environment Protection Agency (EPA) plays an important role in overseeing the ambit of NEPA, by reviewing environmental laws and establishing and implementing regulations to help achieve the deemed effects of the laws (see EPA, 2014a).

Of course how NEPA and EPA are, or are not, utilised depends on political will. At times, scientific findings by NEPA research are 'revised or suppressed by political pressures' (Hansen and Wolff, 2011: 239). In addition, the monitoring of environmental impacts and enforcement of regulations is not always optimal; there can be a failure to integrate NEPA and a range of other environmental laws into environmental policy considerations; and there can be considerable federal agency resistance to NEPA's demanding process (Hansen and Wolff, 2011, 242–3). Nonetheless, a lack of clarity in the operational specifics of many statutes provides an opportunity for what is labelled 'rule making'. The *Clean Air Act* provides such opportunities, hence clarifying why this act has been utilised as a conduit for the Obama administration's regulatory agenda around climate change. The EPA's regulatory capacity regarding climate policy was considerably enhanced with its 2007 win in the United States Supreme Court case: Massachusetts v EPA. The Supreme Court upheld the EPA's authority under the *Clean Air Act* to regulate greenhouse gas emissions from motor vehicles on the basis that the act requires the EPA to control for pollutants that endanger public health. In addition, other NEPA statutes suggest a strong capacity within NEPA's current regulatory framework to regulate greenhouse gas emissions and climate impacts more broadly; indeed, 'the trend in the federal courts [such as Massachusetts v EPA] and at the state level suggests climate change impacts should definitely be considered under NEPA' (Smith and Bass, 2010: 184). This helps explain the 'burst of activity' that has flowed from some of these recent court decisions.

Current evidence points to the Obama administration's determination to continue this 'burst of activity', particularly by further exploiting rule-making opportunities NEPA provides. McNeil and Paterson (2012: 240–1) consider that the rule-making process has intensified since the mid-1990s to become a preeminent strategy in climate policy; indeed, the Obama administration has increasingly utilised 'its rulemaking obligations on CO2 under the *Clean Air Act* as an alternative means to pursue

its objectives on climate change through unilateral authority' (2012: 241). For example, in 2013, the EPA announced New Source Performance Standards for new coal-fired and gas-powered power plants. New coal-fired power plants would now be required to meet a significant emissions limit, effectively decreeing the inclusion of carbon capture and storage (CCS) technologies – albeit technologies that have not yet been proven on a commercial scale – and paving the way for gas-fired power plants to prosper. This is expected to be followed by the tighter regulation of existing power plants. As a then EPA administrator declared:

> Climate change is one of the most significant public health challenges of our time. By taking common sense action to limit carbon pollution from new power plants, we can slow the effects of climate change and fulfil our obligation to ensure a safe and healthy environment for our children. These standards will also spark the innovation we need to build the next generation of power plants, helping grow a more sustainable clean energy economy. (in Global CCS Institute, 2013)

The degree to which the Obama administration will be able to effect significant or permanent change through the *Clean Air Act* remains a moot point, however. The president 'could leave office with the most aggressive, far-reaching environmental legacy' of any previous administration, or achieve very little indeed (Davenport, 2014). The outcome will depend on Supreme Court decision-making over further challenges to the act's application. Thus far the act has enabled a range of regulations and policy measures that set out to significantly reform, and 'green', key sections of the American economy, including power generation, manufacturing and transportation, as well as proposing to regulate methane emissions from gas production in the near future. Although the *Clean Air Act* has been utilised robustly in the past, the Obama administration is viewed as the first to extend its powers to the climate domain (Cama, 2014). As Davenport (2014) points out, Obama administration reforms

> could eventually transform the way electricity is produced, transmitted and consumed in the United States, leading to more power generation from alternative sources like wind, solar and nuclear. But the regulations could also cause costly disruptions in power reliability and transmission, forcing companies to look for breakthroughs in technology to meet the requirements.

The resistance from the Republican-dominated Congress, together with coal industry associations, is likely to be fierce, and will continue to be fought vigorously in the courts. Challenges against climate-related EPA regulations have already proceeded to litigation (see Liptak and Davenport, 2014). Critics of the act have long argued that that the Obama administration's application of the act to regulate carbon overreaches its brief.

Despite the Obama administration's recent regulations, many of the act's rules rely on state cooperation and implementation for their passage (Cama, 2014; EPA, 2014b). As the EPA notes, the federal government's climate plan will be implemented through 'state-federal partnerships' with flexible timelines, allowing the states to devise programs that best meet their individual circumstances through the 'right mix … of diverse fuels, energy efficiency and demand-side management' (EPA, 2014b). This builds on the EPA's program of engagement and consultation with the states before the settling of its clean power plans. Prevailing legislative mechanisms augur well for a reforming administration, but such modernisation could easily become unstuck in the face of a powerful political opposition armed with a range of counter-strategies. We turn next to some of these difficult politics in the United States.

Ecological modernisation in the United States

Under the current Obama administration, the United States shows how a modernising state could use its regulatory and political powers to mediate its environmental reform agenda, form partnerships to advance it and manage the resistance to it. These goals are increasingly conceptualised in the overriding EM logic of protecting and advancing America's economic interests. To this degree, ecologically modernising Germany and the United States may have more in common than is generally credited. Despite very different political systems, cultures and histories, their forms of EM are both directed to the broader goal of nation building, and both use their shared commitment to entrepreneurialism and technological innovation to do so. As befits EM's co-benefits norms, these countries' enhanced support for environmental innovation is seen to boost their industrial success and mitigate future economic risks at the same time as it addresses climate change. We observed in Chapter 3 that EM features most prominently in corporatist regimes, but reforming federal administrations in the United States, and many of their counterparts in the states, have also applied an EM ethos to their industrial arrangements. The Obama administration has strategically utilised political resources already available to it to proceed down an EM path. Once

again, this is primarily achieved through framing green industrial policy as manufacturing entrepreneurialism; through working collaboratively with state level regulations; and through the use of unilateral executive authority (McNeil and Paterson, 2012; see also Rabe, 2006).

The United States' innovation culture and strong manufacturing base has long been a major contributor to the country's status as the world's largest economy – only recently surpassed by China. This has helped to create a 'developmental network state' that has actively promoted, funded and coordinated technological innovations in a range of areas – a state-directed activity one may not have expected to find in a preeminent neo-liberal state such as the United States (McNeil and Paterson, 2012: 237). But even past conservative governments – such as the Nixon, Bush senior and Bush junior administrations – had introduced a range of policies and regulations directed towards the advancement of an innovation culture, even in environment-related industries. As we saw, the 'green decade' of the 1970s launched pivotal legislation such as the *Clean Air Act*. What is often forgotten is that this act was passed to considerable bi-partisan acclaim, attracted unanimous Senate support and was signed off by the Republican President Nixon. Republican successor President Bush senior then updated it in 1990 to bolster its regulatory capacity (Davenport, 2014). The 1970s also saw one of the first large-scale commitments to alternative energy in the form of then President Carter's $7US billion research and development investment program. Moreover, programs were built on incrementally by incoming administrations, both Republican and Democratic (McNeil and Paterson, 2012: 238). Indeed,

> in spite of its aversion to formal action on climate, over the course of its eight years in office the [Bush junior] administration yielded to various pressures upon the state by overseeing the creation of a dedicated developmental apparatus aimed at fostering the creation and deployment of novel climate and energy technologies. (2012: 238)

Perhaps this is no more obvious than in the fact that many of the American states, whether under Democratic or Republican governorships, have made considerable headway in climate-related policies, especially through investments in technological innovation and manufacturing (Rabe, 2006). A number of factors account for this, including climate impact, economic development and agency advocacy (Rabe, 2006; see also Matisoff and Edwards, 2014). Some states are more concerned about the effect of climate change because of their

geographical and climatological circumstances. Coastal or arid states tend to be more concerned about sea level rises, more extreme weather, droughts and water shortages. These factors figure more prominently in these states' decision-making, which increasingly assumes an EM logic. As Rabe (2006: 4) notes,

> Virtually all states that have responded to the challenge of climate change have done so through methods that they deem likely to reduce greenhouse gas emissions but simultaneously foster alternative forms of economic development. ... Even some states with substantial sectors that generate massive amounts of greenhouse gases, such as coal mining and usage in Pennsylvania, have begun to shift their thinking toward the opportunities for longer term economic development presented by investment in renewable energy.

This state entrepreneurialism has been bolstered by strong administrative factors that direct the green development drive in complementary directions. Rabe refers to the important role that agencies and their actors have played in fostering policy entrepreneurship in the clean energy domain, particularly at the state level. These actors

> have proven effective in forming coalitions, often cutting across partisan lines in the legislature and engaging supportive interest groups where feasible.... No two states have assembled identical climate policy constituencies, just as no two states have devised identical policies. But state agencies have been significant drivers behind innovation, whether in the stages of developing policy ideas or seeing them through to policy formation, or moving into policy implementation. (Rabe, 2006: 5)

Despite these considerable achievements, the sectoral dynamics of climate reform remain testing. There are other important reasons that explain the more explicitly American form of EM the Obama administration currently adopts. Unlike Europe, where scientific investigations and the science of climate change are largely respected (see Hayes and Knox-Hayes, 2014; Skjaerseth et al., 2013), in the United States climate science contestation is the prism through which much of its climate politics, and the sectoral dynamics that underpin it, occur. The trenchant congressional resistance to climate reform is built on the success of a climate denialism discourse that largely rejects climate science. As we saw, this has prompted a strategic discursive response by the Obama

administration – a response that is framed increasingly in EM terms, and sidesteps the difficult politics of climate science (Vezirgiannidou, 2013). But climate reform offers not only the prospects of America riding and leading an innovation boom in the energy developments of the future; it also offers the tantalising prospect of energy independence – a cherished political aspiration for large parts of the American constituency. In a speech delivered at the United Nations Climate Summit in New York in September 2014, President Obama clearly reveals his EM credentials; it is worth citing at length:

> The United States has made ambitious investments in clean energy, and ambitious reductions in our carbon emissions. We now harness three times as much electricity from the wind and 10 times as much from the sun as we did when I came into office. Within a decade, our cars will go twice as far on a gallon of gas, and already, every major automaker offers electric vehicles. We've made unprecedented investments to cut energy waste in our homes and our buildings and our appliances, all of which will save consumers billions of dollars. And we are committed to helping communities build climate-resilient infrastructure. So, all told, these advances have helped create jobs, grow our economy, and drive our carbon pollution to its lowest levels in nearly two decades – proving that there does not have to be a conflict between a sound environment and strong economic growth. (Obama, 2014)

The final sentence of President Obama's speech resoundingly reveals its EM logic. We turn next to situating climate politics in the United States more directly in the context of CSR and its sectoral dynamics.

Modernisation, sectoral dynamics and CSR

As is often the case in resource-rich economies, the fossil fuel sector exerts considerable influence over climate and energy policy in the United States. This occurs through a number of often interrelated channels: the structure and culture of political donations in the United States; the long-standing government-business relations networks forged by an energy-intensive economy; and a political culture that provides multiple access points for the many lobbyists that drive it. The fossil fuel industry expends considerable sums in funding lobbyists to challenge climate policy and legislation. In 2012, it was reported that close to $US250 million was donated by the fossil fuel sector to political candidates, political parties and lobbyists employed to stymie climate

action (Fossil Free MIT, 2014; see also Berners-Lee and Clark, 2013). The charge is that coal and oil industries alone

> spent millions of dollars to wage a propaganda campaign to downplay the threat of climate change … amplifying the views of about a half dozen dissenting researchers, giving them a platform and a level of credibility in the public arena that is grossly out of proportion to their influence in the scientific community. (in Fossil Free MIT, 2014)

The Global Climate Coalition (GCC), an amalgamation of predominantly oil and coal industries and trade associations, had been a particularly effective lobbying arm. According to Jacques et al. (2008: 365), 'Exxon Mobil and other corporations have sought to undermine climate science via lobbying and participation in the Global Climate Coalition (GCC) as well as by directly funding sceptical scientists'. The coalition was renowned as a combative and effective organisation which claimed victory in preventing 'over-ambitious' climate policy from entering the policy agenda, and stymieing the Kyoto momentum.

The GCC's influence only went so far, however, with its demise an interesting one, particularly in the light of CSR. Paralleling the fall of the Tobacco Institute, many companies formally aligned with the GCC left in quick succession in 2000, concerned for their own reputations in the face of the increasing evidence of, and the public's growing concern about, climate change (see Beder, 2000). Nonetheless, while such openly combative organisations may be in decline, this does not mean that resistant corporations do not use other, perhaps less visible, tactics to hinder the climate impetus. As Jacques et al. conclude, 'the self-portrayal of sceptics as marginalised "Davids" battling the powerful "Goliath" of environmentalists and environmental scientists is a charade, as sceptics are supported by politically powerful conservative think tanks and other organisations funded by wealthy foundations and corporations' (2008: 365). These organisations share the goal of containing the climate change 'hysteria' and their success lies in their creation of an environment of doubt in the face of the scientific consensus on both the causes and consequences of climate change.

Recent developments in the political donations domain have reinforced the corporate sector's influence over American public policy. In April 2014, the US Supreme Court struck down a law limiting the amount parties could donate to political candidates and political committees

during federal election campaigns, on the basis of protecting free speech (Barnes, 2014). As the Chief Justice opined in the decision summary:

> There is no right more basic in our democracy than the right to participate in electing our political leaders … We have made clear that Congress may not regulate contributions simply to reduce the amount of money in politics, or to restrict the political participation of some in order to enhance the relative influence of others. (cited in Barnes, 2014)

The ruling has paved the way for an even more vigorous 'financialisation' of democracy.

Political donations constitute just one arm of 'buying' influence. Other effective strategies include funding groups opposed to climate change policy, supporting climate change denial groups, financing conservative think tanks and research institutes and the establishment of 'front' groups purporting to support sustainability causes. According to an investigative piece by *The Guardian* newspaper, between 2002 and 2010 a group of conservative billionaires determined to stop the climate change 'juggernaut', contributed nearly $US120 million in secret funds to a variety of groups and organisations seeking to cast doubt on the validity of climate science (Goldenberg, 2013a). As reported by the paper, these funds 'helped build a vast network of think-tanks and activist groups working to a single purpose: to redefine climate change from neutral scientific fact to a highly polarising "wedge issue"'; and was 'routed through two trusts … cater[ing] to those making donations of $1m or more' (Goldenberg, 2013a). With President Obama's recent determination to advance the climate policy agenda, these groups are alleged to have stepped into over-drive.

In a recent study, Brulle (2013) labels the phenomenon of climate denialism 'the climate change counter-movement' (see also McKechnie, 2013). The study finds that while some of the main sources of funding come from unsurprising donors, significant amounts are also sourced from a bevy of undisclosed donors (labelled 'dark money') which together help constitute the climate change counter-movement's financial muscle. For Brulle, these

> conservative think tanks, trade associations, and advocacy organizations are the key organizational components of a well-organized climate change counter-movement (CCCM) that has not only played a major role in confounding public understanding of climate science,

> but also successfully delayed meaningful government policy actions to address the issue. (2013: 682)

These findings are reinforced by Dunlap and Jacques (2013) who, in a study of climate denial books, find a strong link between these books and conservative think tanks. They observe that most of these books 'do not undergo peer review, allowing authors or editors to recycle scientifically unfounded claims that are then amplified by the conservative movement, media, and political elites' (2013: 699). These books are nonetheless influential. They offer attractive treatises to scientifically inexpert audiences seeking 'straightforward' explanations for the complex and confusing climate phenomenon. As Dunlap and Jacques (2013: 718) conclude, these books are an important tool in the armoury of the conservative backlash against climate action, and 'one of the key means by which the [conservative movement] diffuses climate change denial throughout American society and into other nations' (such as Australia). In earlier studies, Jacques et al. (2008) found that the tactics of climate scepticism and climate denial represented the culmination of long-standing efforts by conservatives to counter the influence of a growing environment movement. For Brulle, this phenomenon helps to explain 'how anthropogenic climate change has been turned into a controversy rather than a scientific fact in the [United States]' (2013: 693).

That opposition to climate-related legislation emanates predominantly from heavy industry, the automobile industry and the fossil fuel sector is not unexpected (Brulle, 2013; Jacques et al., 2008; Selin and vanDeveer, 2007). This kind of opposition is widespread, and while it is usually strongest in resource-intensive economies, it emerges even in the EU, which, as we saw, is widely acclaimed for its climate policies (see Hale, 2010). But the structure of the American political system, with its multiple special interests entry points, can also facilitate such opposition. Of course not all business takes a resistant view to climate reform. There are a number of industry sectors that will benefit from America's green energy transformation. The renewable energy sector is clearly one of these, but other industries such as the tourism and insurance industries are also tentative supporters of climate reform.

Once again, an EM discourse that focuses on economic development and nation building goes some way towards counteracting the potency of climate denialism and the resistance to reform. It is thus no surprise that the strategies employed by the Obama administration utilise an EM logic. But companies too can discursively counter-appropriate the

modernisation narrative, often using the norms of self-regulation and voluntarism to champion the social responsibility credentials of their climate responses. A modernisation narrative is hence attractive for both political and corporate actors, which can lead to a discursive contest for its engagement. Even energy companies opposed to substantive climate reform articulate a CSR-related narrative that utilises the discursive logic of EM to support their opposition. As Vezirgiannidou (2013: 604) points out, 'industry prefers token actions and postponing stronger reductions. The green-economy discourse is amenable to co-option by industry, which can agree with it on principle but then oppose specific reduction policies'. Hence, even when companies ostensibly agree to climate reform, they can direct their efforts towards co-option of the reform agenda through commitments to voluntary measures at the expense of more robust regulation (Vezirgiannidou, 2013: 605). Others describe it as the 'Jekyll and Hyde approach to climate change'. At the United Nations climate meeting in Lima in 2014, for example, the claim was that a number of fossil fuel sector representatives presented a positive public face, with some even pledging to lead the way in emissions reductions, while, behind the scenes, they worked towards the blocking of reforms (Feng, 2014a, 2014b).

To illustrate the discrepancy between rhetoric and practice, we use the brief example of Chevron – one of the world's largest energy companies. Their website claims that their 'success is driven by ... their commitment to get results the right way – by operating responsibly, executing with excellence, applying innovative technologies and capturing new opportunities'; this includes their commitment to the environment by providing 'energy responsibly while protecting the environment and working with our partners to strengthen communities' (Chevron, 2015). They further highlight the $US1.5 billion they have donated to corporate responsibility projects over the past eight years, particularly in the areas of health, education and economic development (2015). On climate change more specifically, they acknowledge 'that the use of fossil fuels to meet the world's energy needs is a contributor to rising greenhouse gases (GHGs) in the earth's atmosphere', and they 'believe that taking prudent, practical and cost effective action to address climate change risks is the right thing to do'. Their 'Policy Principles for Addressing Climate Change' include a commitment to global engagement; a 'balanced and measured approach' that respects equity and economic security; investment in research and innovation, including new technologies; and transparency in measures and approaches adopted (2015).

Yet, an investigation in 2013 revealed a somewhat different story. A *Bloomberg News* report claimed that while Chevron was a forerunner in the corporate assistance it provided to California's new law on the reduction of carbon emissions from cars and trucks in 2007, behind the scenes it was actively lobbying to dilute it (Elgin and Waldman, 2013). While 'still promoting its commitment to renewable energy', the investigation found that the corporation 'quietly shelved most of its biofuels work in 2010' on the basis that the 'potential returns of at least 5 percent weren't enough for a multinational used to margins triple [that]' (2013). Like other major energy companies, there is recognition of the link between climate change and carbon emissions, but the potential impact of climate reform on profitability and returns can still fundamentally guide commercial decision-making. Hence, large energy corporations such as Chevron and Exxon Mobil can articulate a discourse of social responsibility (e.g., around jobs) while significantly tempering their environmental reform response. The proffered reason for diluting the Californian law was that it required 'technology that may not be available for years, and will cost jobs and send pump prices soaring' (2013). To this end, both of these major energy corporations helped finance an Alliance that runs campaigns warning of the devastating social impact of mandated low carbon laws on jobs; even as Chevron claims a remaining commitment to biofuel development when the timing and technologies are right.

We now turn to our second case study – Australia – to consider how its climate politics play out, and how the discourses of EM and CSR interact to produce their own distinctive, but also shared, dynamics.

Climate politics in Australia

At the end of 2014, a Climate Change Performance Index that measured individual country performance in the climate policy domain named Australia as the worst performing industrialised country (Readfearn, 2014). The Index assessed each country's emissions levels and trends, energy efficiency and renewable energy policies, climate policy profiles and engagement with international agreements. Australia's low score stems from the current federal government's overriding determination to shift it away from what it considers a global 'obsession' with climate change. To this end, since assuming power in September 2013, it has rescinded the previous government's implemented carbon tax and replaced it with a generally acknowledged anaemic alternative of 'Direct Action'. It has also amended, removed or recrafted a raft of

environmental policies; and disestablished, or reduced funding for, a number of climate institutions, research bodies and scientific organisations. Its ambition to dismantle, or significantly weaken, successful policies such as the Renewable Energy Target and associated renewable energy schemes has, thus far, been stymied only by the resistance of a hostile Senate whose approval it needs.

The Index's findings regarding Australia are replicated in the United Nations Environment Program's 'Emissions Gap Report' (2014) which viewed Australia as unlikely to meet even its modest emissions reductions target of 5 per cent from 2000 levels by 2020. It had been on track to meet this target under the previous government's carbon pricing and renewable energy policies, but will now fall significantly short, or likely increase them (UNEP EGR, 2014: 32).While the United States was also identified as unlikely to meet its targets, it has, as we saw, a prospective plan in place that could go some way towards meeting them (2014: 31). Paradoxically, the unravelling of climate progress in Australia appears to be occurring at the very time that more countries are accelerating it. It also comes at a time when, as a recent scientific study warns, the vulnerable Australian continent will experience significant climate impacts as a result of accelerating warming, including a near doubling of the frequency of extreme weather events (Cai et al., 2014; see also IPCC, 2014).

Despite these scenarios, the federal government's response is motivated by a number of interrelated factors: a strongly sceptical view towards the science of climate change prevalent within its senior echelons; its determination to rebalance the environment development relationship in the belief that it has tipped too far in the environment's favour; and its commitment to protecting the primacy of the mining sector in Australia's economic profile. Indeed, Prime Minister Abbott recently opined that 'coal is good for humanity' and would, and should, continue to power the world economy indefinitely. Commenting on the Index's country positioning, one of its authors observed that the 'fossil fuel lobbies in [some] countries are strong [and in] Australia they stopped what were some very good carbon laws' (in Readfearn, 2014). While this is indeed an important part of the explanation, it does not explain the Australian response to climate change in its entirety. The struggle for climate modernisation in Australia is complex and multifaceted, as it is in the United States, and indeed across the globe. The Australian experience too reveals an interesting interactional dynamic between EM and CSR that helps shape the Australian climate response in significant ways.

The Australian climate story: context and beginnings

Australia is an energy-intensive economy with an abundance of mineral resources. Its status as a net energy exporter is due mainly to its substantial coal and liquefied natural gas exports. Australia is one of the world's largest coal producing countries and the world's second-largest coal exporter, with natural gas occupying a growing export role (EIA, 2014a). On the domestic energy front the coal industry dominates, supplying over 80 per cent of Australia's stationary energy (2014a). Australia's economy relies heavily on the wealth generated from this mineral abundance, with successive mining booms fuelling its economic growth and terms of trade. Over the past decade in particular Australia has been a direct beneficiary of China's rapid development and its reliance on Australia's resource exports. This has had the added benefit of insulating the Australian economy from the ravages of the global financial crisis. While the peak of the boom has now passed, there remains significant investment, acquitted and planned, in a range of mining projects, including the planned Carmichael mine in the state of Queensland, credited as the world's largest coal mine.

This energy profile highlights the Australian economy's structural reliance on mining and explains the influence that the mining sector wields in Australian government-business relations. While mining creates limited numbers of ongoing jobs – most jobs are generated at the construction phase – governments of all persuasions have grown to rely on the significant tax revenues that accrue from mining. The recent fall in coal and iron ore prices has affected not only the mining sector but also the government's revenue base, enlarging its deficit considerably and contributing to its narrative of the unaffordability of climate schemes. The perceived end of the mining investment boom in Australia has wide-ranging implications on a number of fronts (see Charlton, 2014). A recent review of mining by Australia's Reserve Bank found that over the past decade or so, the mining boom had contributed 13 per cent to per capita household disposable income (Downes et al., 2014). But the 'resources rush' has had a number of other significant impacts, particularly on different sectors of the Australian economy (see Cleary, 2012). We discuss some of these impacts in relation to unconventional gas developments and renewable energy in Chapters 5 and 6. However, with the federal government, and many of its fellow state governments, determined to reap maximum economic benefit from mining while they can, mining activities across Australia appear to be ramping up rather than slowing down, particularly as

many projects move from the construction to production phases. As Cleary points out:

> Whether it be coal-seam gas, LNG or coal mega-mines, a resources rush is happening in just about every productive corner of our country. Yet at the same time oversight and regulation have been hollowed out. High-risk projects are being approved without proper assessment of the long-term consequences. Water resources, farmland and national parks are under threat, and people, communities and industries are being steamrolled. (2012, back cover)

From a more direct climate perspective, Australia's energy profile poses significant challenges to its emissions reduction capacity. This profile already renders it one of the world's highest per capita emitters of carbon emissions, and its economic reliance on its resources base has always made the prospect of climate reform extremely challenging. These challenges take two main forms. An effective climate policy will require Australia to accommodate a more diversified energy landscape that creates space for renewables and other emissions reduction measures. This will mean (re)negotiating the central place that the fossil fuel sector has traditionally occupied in the Australian economy. It also means confronting the reality that insufficient attention may have been paid historically to ongoing investment in other sectors of the economy such as manufacturing. Any contestation between mining and other primary sectors such as agriculture has often seen mining win out (see Cleary, 2012; Pearse, 2009). This is nowhere better reflected than in the current unease among the agricultural community over the intrusion of unconventional gas mining onto their properties, and the potential impacts of this intrusion on their sector's lifeblood – water. Politically, the establishment of the legislative and institutional infrastructure of climate reform will thus require governments' best-honed political skills, particularly to manage the sectoral power relations of resistant energy sectors set on protecting their interests.

The 'golden years' of climate reform in Australia, arguably the small window between 2007 and 2013, were ushered in on a robust EM narrative. This narrative, even in muted forms, had already entered the Australian lexicon decades ago under the ambit of ecologically sustainable development (ESD). As Australia's version of sustainable development (SD) and EM, ESD, led by the then Hawke Labor government, established a plan for the modernisation of environmental management in Australia. As Australia's new modernisation paradigm, ESD was

intended to usher in significant change to Australia's institutional architecture as well to its industrial practices. Decision-making processes that incorporated a broader range of stakeholders were considered critical to achieving ESD's and EM's goals. The ESD process established in the late 1980s reflected this new thinking. Here a number of business, environmental, scientific, community, civil society and government 'working groups' came together to collaboratively decide the policy contours of Australia's SD response. The reports produced by these working groups then went on to inform the final policy outcome: the National Strategy for Ecologically Sustainable Development (NSESD) in 1992 – a strategy whose norms continue to underpin environmental policy today. In order to achieve the important goal of environmental policy integration, it was considered that these collaborative norms would need to be applied across governments' institutional architecture. With ESD, it seemed that Australia had heeded the World Commission on Environment and Development's modernisation advice that only by significantly recasting a country's institutional and public policy arrangements could the goals of SD be achieved. Significant modernisation would thus need to occur both within and across the institutional domains of sustainability (WCED, 1987).

How successful this plan was in modernising the Australian economy and society remains contentious, a discussion that we return to subsequently (but see Curran, 2015; Curran and Hollander, 2015). Nevertheless, the Hawke government did put climate change directly on the environmental agenda for the first time and introduced the inaugural National Greenhouse Response Strategy in 1992. The strategy set the aspirational goals of Australia meeting its international obligations in emissions reductions through building a stronger research base and fostering partnerships with business in achieving these goals. But even then climate policy was a highly contentious issue that generated considerable industry and political disquiet (see Harris and Throsby, 1998). While the Hawke government is generally credited with introducing significant environmental protection orders including iconic world heritage forests and the enlargement of the Great Barrier Reef Marine Park, Hawke's successor did not share his predecessor's enthusiasm. Hence, even the limited sustainability momentum that prevailed during the Hawke years sputtered during the ensuing Keating government's reign (Eckersley, 1996; Economou, 1999). But the modernisation momentum was successful to the degree that climate change and the notion of climate reform had penetrated both the public consciousness and the policy agenda (see Curran, 2009). The ensuing decades witnessed a fierce

contest over where climate policy sat, or should sit, on this agenda and what attention and priority it should be accorded.

On assuming office in 1996, the conservative Howard government inherited the issue of climate change along with expanded environmental expectations. The green movement had done its work successfully in Australia too. Environmental awareness was now more widespread within the Australian community, and there was an expectation that governments would construct an effective response. To this end, the Howard Coalition took a considerably expanded sustainability platform to its successful 1996 election. Its environmental agenda was marked by a strong focus on the marketisation and privatisation of the environmental response, largely in keeping with its own ideological persuasion and the neo-liberal times. With the Kyoto negotiations falling under its watch in 1997, the Howard government was compelled to confront the issue of climate change head on. It had already established what was then considered a world first – the Australian Greenhouse Office – in preparation. From the outset, however, the Howard government flagged its overriding commitment to safeguarding the sectoral status quo against climate policies that might threaten it. Its 'no regrets' policy approach – an approach that sought to ensure that Australia's resources sector was not disadvantaged in any climate agreements – captured its stance well, and explains why it declined to ratify the Kyoto Protocol despite the attractive conditions it was able to negotiate (Bulkeley, 2001). Australia's refusal to ratify the Kyoto Protocol until 2007 was widely criticised on the world stage, much as the United States' rebuff was. Nonetheless, the Howard government's resistance to 'over-enthusiastic' climate modernisation persisted during its tenure over four administrations. This resolve fractured in 2007 when, confronted with an election campaign in which climate policy figured prominently, it reluctantly proposed an ETS of its own.

This proved too little, too late. The 2007 election was won convincingly by the Rudd Labor government in what is often described as Australia's first climate change election (Rootes, 2008). Australia's standing as a serious climate actor was significantly boosted when the Rudd government ratified the Kyoto Protocol to considerable international acclaim several weeks after coming to office. The government quickly established a dedicated climate change department which was tasked with the development of a comprehensive ETS. Despite the eventual unravelling of the Rudd government's climate promise, as we discuss below, there can be no doubt that one of its key achievements at the time was to convince a significant proportion of the Australian community that climate change

was real and that Australia had both an ethical and economic duty to do its part in redressing it. Ethically, Prime Minister Rudd advanced a potent morality discourse around climate change, describing it as 'one of the greatest moral challenges of our age'; more than this, it was also 'the defining challenge of our generation', with choices made now sure to 'impact all future generations' (Rudd, 2007). Economically, the then prime minister took a decidedly EM discursive route, promising to invest in the jobs and industries of the future; and politically he set about a significant program of institutional modernisation.

For the Rudd government the logic of EM prevailed and offered Australia important co-benefits. Clean energy would not only offer business significant opportunities to expand and innovate, but it would also address a pressing environmental problem. To this degree the goals of sustainability and productivity could be reconciled. Significantly, this commitment to climate change flowed from the very apex of the political hierarchy, with the prime minister himself taking direct leadership of the climate agenda from the outset. The government created Australia's first stand-alone climate change department in 2008, tasking it with devising and implementing the Carbon Reduction Pollution Scheme (CRPS), and established a range of regulatory bodies to manage it. The Department of Climate Change had a number of key interrelated tasks: the mitigation of greenhouse gas emissions; adaptation to the impacts of already occurring climate change; and more collaborative international engagement. The other main prong to its mitigation efforts was the expansion of the Renewable Energy Target to a 20 per cent contribution by renewables to electricity generation by 2020 (discussed in full in Chapter 6). In short, EM's key driver of innovation, at both an institutional and industrial level, would underpin climate reform.

But the Rudd era's progressive climate reforms largely came to nought. Not only did the Rudd government withdraw the CRPS in early 2010 – to considerable community dismay – but his prime ministership soon ended ignominiously. The controversial story of the demise of both the CRPS and Rudd's loss of the prime ministership has been told from a number of perspectives (see Bailey et al., 2012; Bell and Hindmoor, 2014; Curran, 2011; Cassidy, 2010; Chubb, 2014). An important part of this story is the role that the minerals sector played in the unravelling of the Rudd prime ministership (see Bell and Hindmoor, 2014). The sector's resistance to the CRPS ensured that a considerably diluted model prevailed, and its organised campaign against another Rudd government proposal – the mining resources rent tax – succeeded in undermining the prime minister's standing as a whole, including within his own party. The CRPS's

difficult parliamentary passage and the accelerating internal pressures upon his leadership culminated in the CRPS's ultimate withdrawal, and the successful challenge to his prime ministership. There was widespread agreement that the withdrawal of the CRPS fed disenchantment with a prime minister who, through lofty rhetoric, had made climate reform his signature theme (Curran, 2011). This fuelled a broader disenchantment within his own party which ultimately led to his removal and replacement with his deputy.

We discuss below the incoming Gillard government's introduction of a carbon tax in 2012. Prime Minister Gillard's own reign was nonetheless dramatically cut short by her former nemesis, representing a turbulent time in the annals of the Australian Labor Party and indeed Australian political history. With the Gillard government expected to lead her party to a significant defeat in the upcoming election, Rudd succeeded in regaining the prime ministership several months before the 2013 poll. His climate change message in the forthcoming poll was considerably less ebullient than the one put forward in the climate change election of 2007. However, it was all to no avail in any case with the conservative Abbott government achieving a significant win on the back of its promise to 'axe the [carbon] tax'.

Ecological modernisation and the carbon tax

The Gillard-led Labor Party won a narrow victory in 2010, forcing it to negotiate with Green party members and independents in order to form minority government. One of the prices of minority government was a carbon tax, which would contribute to Prime Minister Gillard's eventual undoing. Gillard promised during the election campaign that there would be 'no carbon tax under the government I lead'. The introduction of the tax constituted a broken electoral promise that the then Abbott Opposition trenchantly exploited to unravel her prime ministership. While the Gillard Labor government remained committed to climate policy, their preferred option was not a carbon tax but rather an ETS form which it would consider revisiting after the controversy of the Rudd government's CRPS, and his removal, had subsided. But minority government forced Gillard's hand. Despite this, there remained considerable continuity between her government and her predecessor's in their shared modernisation goals and approaches. Gillard articulated the same EM ethos begun by her predecessor, even as she discarded his moral exhortations and focused more directly on the economic benefits of climate reform. For Prime Minister Gillard, the carbon tax represented a reform that

> includes the carbon pricing mechanism and delivers support for jobs and competitiveness and Australia's economic growth, while reducing pollution. The changes are a significant environmental and economic reform for Australia ... [and] will also let Australia take advantage of the economic and job opportunities that will come as the world tackles climate change and shifts to a clean energy future. (CEF, 2011: 4)

As prime minister, she reinforced these views in a public address in July 2011. She reiterated the standing of climate reform as broad-based economic reform and highlighted its capacity to decouple the consequences of development, particularly carbon pollution, from continued growth. Like many ecological modernists, she put her faith in technological innovation. She went further, however, when she also suggested that such innovation could prove a new comparative advantage for the Australian economy. She compared climate reform to some of the large-scale structural reforms of the past, such as the floating of the Australian dollar in the 1983 and the introduction of the goods and services tax in 2000. But she considered that the proposed carbon tax went even further:

> [Over the] ... long term [carbon pricing] achieves a change of far [greater] structural significance: decoupling the growth of carbon pollution from the growth of our economy ... Yes, climate change is a threat to our environment. Yes, being left behind as the world moves is a threat to our economy. But I am not just doing this to protect Australia against threats. I am doing this because I see a great opportunity we can seize. (Gillard, 2011)

Her government would go on to legislate the carbon tax which, regardless of its dubious beginnings, represented a significant moment in the Australian climate story. The heart of the scheme utilised the market mechanism of pricing. As many other polities utilising this measure have reasoned, pricing carbon would provide the incentive to invest in the innovative technologies of the future. Such investment was seen as economically efficient since the 'invisible hand' of pricing would reduce carbon pollution 'at the lowest economic cost' (Gillard, 2011). While her predecessor had withdrawn the CRPS decision-making, the work his government had done in developing the ETS that underpinned it would now be utilised in the design of the carbon tax, as encapsulated in the Clean Energy Legislative Package. The tax, which would segue into an

ETS after three years, applied to 500 major polluters, and would contain a generous community compensation scheme in light of the expected cost burdens that industry would pass on to consumers. But it was the price at which the tax was set – the relatively high rate of $AU23 per tonne – that intensified the corporate resistance to it; a resistance often driven by the then Abbott Opposition and its network of corporate supporters. The hostility to the legislative package's more subsidised features, such as the Clean Energy Finance Corporation Fund which helped finance investment in clean and renewable energy projects, was also particularly intense.

Much debate has taken place in the Australian community regarding the accuracy and strategic aptness of the term 'carbon tax'. The Carbon Market Institute (2011: 8) points out that by imposing 'obligations on industry to reduce greenhouse gas emissions through the surrender of tradeable permits' and the undertaking of 'projects that generate carbon credits' the carbon price mechanism is similar to the existing ETSs in Europe and New Zealand; importantly, it 'is not a "carbon tax" which is simply a fixed impost on emissions'. This distinction was important as the furious political and corporate hostility to the carbon tax was constructed around the discursively unpalatable term 'tax'. Taxes are seldom popular. Coupled with a prevailing view that it was an unfair burden that was imposed duplicitously on the community and business, the tax assumed an adverse status disproportionate to its real impact. The minerals sector, supported by other emissions-intensive trade exposed industries (EITEIs), built up a successful campaign in the Australian community that fuelled fear of job losses and industry shutdowns from a sector that is generally considered the backbone of the Australian economy. The campaign made no mention of the considerable compensation and assistance that the carbon legislation also afforded affected industries, including EITEIs, coal-fired power generators and the steel industry. Interestingly, much of the sectoral hostility to the tax and its key features was articulated in CSR terms.

EM, CSR and sectoral politics

The Minerals Council of Australia (MCA) represents approximately 85 per cent of minerals corporations. As with most companies and their industry associations today, the council and its members have clearly articulated CSR positions, and SD principles guide their social impact norms. In keeping with a largely voluntarist CSR form, their preference is for self-regulatory measures that allow them considerable agency in the design of their social and environmental responsibility responses.

The sector's resistance to legislative and regulatory 'imposts' by government is hence in keeping with its overarching commitment to corporate decision-making autonomy. As the council states,

> The minerals industry has a strong, practical commitment to corporate social responsibility (CSR). Over time, the industry has shifted its focus from dealing with immediate impacts on local communities towards the building of sustainable regional communities through long-term partnerships. A new paradigm of community engagement has taken hold – from a tradition of deciding, announcing and defending to an approach based on engaging, listening and learning. (MCA, 2011: 4)

Regarding environmental pressures in general and climate change in particular, the council articulates a commitment to new technologies that improve efficiencies in the areas of energy, water and chemicals, and on 'practical measures' that improve land use management in industries that crosscut agriculture (MCA, 2011: 3). Regarding climate change, the MCA focuses on improvements it has made in the area of emission intensity and reinforces its overriding commitment to 'global climate change solutions'. Most particularly, however, it highlights the faith it places in clean coal technologies such as CCS, to which 'over $1.2AU billion has been invested by the sector to reduce its carbon footprint in recent years' (2011: 3).

The commitment to CCS reveals a widely employed CSR strategy, one that uses EM's co-benefits rhetoric to showcase the energy sector's social responsibility. Understood this way, 'clean' coal technologies represent 'an easy way out of having to make more difficult and sustainable choices' (Spreng et al., 2007: 853). Indeed, a 'solution' such as CCS is critical to the energy sector's climate narrative. So long as the sector is able to point to a solution that they are committed to, regardless of its feasibility, they are seen to be serious and committed climate actors doing 'their bit' to address climate change. As Palmer (2009: 45) argues, '[i]n theory, research could continue indefinitely without scaled commercialisation, as long as "clean coal" remains a credible objective'. The value of CCS is as much, if not more so, strategic as it is technological. Governments also use this strategy, with the Australian government committing considerable sums over time to CCS research. The reality of CCS is somewhat different, however. Much uncertainty remains regarding its feasibility, timeliness and, in particular, costliness. Even if the technologies were produced quickly enough to stem accelerating warming, most agree that their costs, including retrofitting costs, would

be prohibitive (2009). Studies in the United States have estimated, for example, that these technologies 'could add between 50–100 per cent increases in power costs' (Bickle, 2009: 815). This would have the – for some, alarming – effect of making renewables cost competitive with coal, or cheaper. Yet, so long as CCS technologies retain their status as possibilities, they fulfil a strategic CSR function.

The Minerals Council is largely silent, however, on working with governments in a politically modernised partnership to achieve climate remediation goals. Indeed, from the outset, the MCA vigorously resisted carbon pricing, and the overarching ecological and political modernisation that the government proposed. Their case was argued on the basis that, once again, as the backbone of the Australian economy, an 'attack' on the mining sector was an 'attack' on the Australian economy's structural underpinnings and hence on Australian society as a whole. To this end, a well-funded and widespread media campaign on behalf of some of its key members succeeded in diluting the tax's scope and reach. Claiming the carbon tax as a 'cost escalator', the MCA's CEO contended that the implications for the Australian economy were dire:

> the carbon tax is … a massive $120 billion impost on business that our competitors don't face, to redistribute as compensation to some to offset the very changes it is designed for, and that it will not reduce global GHGs, nor position Australia to be competitive in a carbon constrained world … [Instead] Inefficient and overlapping regulation is creating higher costs and uncertainty for the minerals industry in the key areas of project approvals, energy and climate policy, water market access and occupational health and safety. (Hooke, 2012: 8, 10)

Indeed, it was claimed that the government had in any case gotten 'the carbon tax completely wrong' since it would not achieve any of its claimed emissions reductions while punishing Australian industry unnecessarily; instead it would 'drive Australian projects up the global cost curve … increase sovereign risk, impede industry growth, … result in the opportunity cost of lost national income' as well as creating a 'jobs carnage' that would spare no state or region (Hooke, 2012: 10; Hooke, 2009; see also Curran, 2012). These responses were supported by other industries. Importantly, however, there was not blanket condemnation across the industrial sector as a whole to climate reform. Even in the mining sector, not all were as resistant to the notion of carbon pricing; some saw it as inevitable – even if they objected to its carbon

tax form. BHP Billiton CEO, for example, disparaged the carbon tax, but had previously supported some form of climate pricing in Australia (see Chambers, 2011).

While not as directly oppositional as the MCA, business associations such as the Australian Industry Group (AIG) and the Business Council of Australia (BCA) advocated significant changes to the carbon tax design. They argued, for example, that emissions reduction 'should be achieved at least cost' to preserve Australia's competitiveness; that Australia not 'go it alone' on climate reform but 'act in tandem with other nations'; that 'market based emissions trading scheme(s) with broad coverage' be privileged over a carbon tax; and that the investment in lower emission technologies should include a strong focus on clean coal technologies (BCA and AIG, 2011).

What is particularly salient about these corporate discourses is their utilisation of CSR norms to make the case for opposing the carbon tax. Articulated in terms of the corporate sector's social responsibility to Australia's economic future, rather than simply their own bottom lines, these corporate narratives significantly influenced the standing of the carbon tax within the Australian community. The support of a combative political opposition helped ensure the tax's death knell. Curran (2011, 2012) provides a useful perspective on these corporate narratives. EITEIs can indeed be vulnerable to some 'carbon leakage' to countries without carbon imposts. Nonetheless, reports that modelled the corporate sector's claims about the size and scope of these impacts found them to be considerably embellished. A range of reputable financial agencies such as Goldman Sachs JBWere, JP Morgan and CitiGroup found that many in the sector 'presented the worst case [scenario] to governments, in an effort to obtain policy concessions' (Berger, 2009). This was particularly noted in the inconsistencies between what some companies reported to government – usually significant financial pressure and significant job losses – and what they reported to their shareholders – robust financial futures (ACF and ACJP, 2009; ACJP, 2009). In 2009 Goldman Sachs JBWere concluded, for example, that the financial impacts of the Rudd government's ETS proposal on ASX100 companies would have been 'insignificant', with only 4 of the top 100 Australian companies likely to face liabilities of over 5 per cent of earnings (in ACF and ACJP, 2009: 3); and even less, at between 2 and 4 per cent, for other major energy corporations such as Woodside Petroleum Limited (in ACF and ACJP, 2009: 4). In addition, rather than the carbon tax dampening – and in some cases 'ruining' – the mining sector's future, the sector was

instead planning for some of the biggest investments in its history (see Baker, 2012).

As we saw, it all came to nought in any case. The incoming Abbott government fulfilled its 'pledge in blood' to repeal the carbon tax, replacing it with a significantly diluted 'Direct Action' policy. It has since shown itself to be a very reluctant ecological moderniser. Instead, it has set its sights on, as far as practicable, unencumbered economic development that immobilises the environmental momentum that it considers has punished industry for too long. The basis of the Abbott government's 'Direct Action', or Emissions Reduction Fund, policy also reveals its preferred government-business relationship. Direct Action initiates a reverse auction that pays polluters to reduce their emissions, rather than the more standard approach of the polluter paying. Based on a competitive tendering process, the Emissions Reduction Fund will fund those projects that are successful in securing a government contract. These projects can spring from industry, community organisations or local governments. The policy will be supplemented by a 'green army' of young unemployed people who will be paid an allowance to participate in environmental restoration projects. The Climate Change Authority – an organisation charged with providing independent climate policy advice to the Australian government – recently concluded that the scheme is unlikely to achieve even the modest target of 5 per cent emissions reductions below 2000 levels by 2020 (Wade, 2014). Paradoxically, however, by the time the Abbott government repealed the carbon tax to make way for its new policy it had already begun to do its work. Indeed, contrary to the impassioned campaign that had been arraigned against it, the carbon tax's impact had been barely noticed by the Australian community; business angst had settled and it had adjusted to the new policy settings; and – critically – the tax had begun to have some impact on reducing emissions (Hannam, 2014a).

Conclusions

Climate modernisation is a fraught task. As illustrated in both our case study countries, commercial actors likely to be impacted by climate policy have mounted vigorous resistance to ensure that their interests are upheld. Behind the scenes powerful networks of industry, think tanks, media outlets and other commercial and political interests have launched successful campaigns to undermine the urgency and science of climate change. Elements from the fossil fuel sector have been central to these campaigns. In the United States and Australia, the science of

climate change is not as esteemed as it is in Europe and is still wielded as a tactic to undermine reform (Hayes and Knox-Hayes, 2014; Skjaerseth et al., 2013; Christoff, 2014b). The tactics of deferring to future technological developments and to the grand ambitions of 'clean energy' are popular strategies. But so too is the utilisation of CSR norms to pursue an anti-reform case based on the social responsibilities of corporations to protect jobs, provide energy security and ensure the health of the economy as a whole.

Beyond the corporate sector, the two cases also illustrate the key role that political leadership plays in shaping and advancing the modernisation momentum. Even in the face of the formidable resistance to climate policy, governments are far from powerless. Modernisation – political and ecological – is activated by strong commitment at the political elite level. Here, canny political actors have the capacity to devise effective strategies for penetrating the resistance to climate reform – should they so choose. Social change relies, after all, on the strategic skills wielded by actors in the face of a range of conditions not necessarily of their choosing (Jessop, 2002). Of course not all political elites count climate reform among their ambitions, with some more likely to work with climate reform's opponents than proponents – as we saw in our Australian case.

In the United States, we observed how the Obama administration has utilised, and is utilising, the considerable tools political power affords the president to counter the widespread resistance even to his modest climate plans – although we have yet to see the outcome of this newfound strategy. In Australia, before his ignominious political demise, Prime Minister Rudd had successfully convinced a significant proportion of the Australian community that climate action was necessary and could no longer be deferred. What brought the Rudd government's climate plans unstuck was due as much to his personal political skills and his party's dynamics as it was to the corporate resistance mounted by the mining industry and its champions – as important as this was in influencing the policy's trajectory (see Bailey et al., 2012; Bell and Hindmoor, 2014).

These personal political dynamics also created deep uncertainty about the shape of the future regulatory environment and its endurance over time. Policy certainty is critical to investment, even among reluctant innovators. It is thus no surprise that the climate investment momentum was seriously dented in Australia as a result of its dramatic politics and ensuing policy instability. In a study of the views of some key corporate actors during the Rudd climate era, Mikler and Harrison

(2013: 423) found that for most corporations certain, ongoing regulatory frameworks were critical to their investment decisions, even if they did not necessarily agree with the policy in the first place. Hence the 'lack of clear market drivers' and 'the unconducive state of the Australian political landscape' combined to encourage corporations to 'invest less in climate innovation' and to stick to less effective 'existing technologies' (2013: 425). In the absence of both political direction and policy certainty, chipping away at the edifice of reform becomes an almost insurmountable task.

In the United States, the Obama administration has reactivated the reform momentum and is promoting a more ambitious modernisation agenda – even against considerable odds. But it does so on the back of a highly controversial strategy: the unconventional gas rush. While the president has introduced toughened regulations for coal-fired power plants, their intended replacements with gas, particularly shale gas, is far from well received. As we discuss in the next chapter, unconventional gas is controversial for two main reasons. First, its extraction and production has significant environmental and social impacts; and second, its status as a lesser greenhouse gas emitter, and hence an effective bridge to a clean energy future, is disputed. This has created a difficult modernisation politics. On the one hand, those concerned over climate change welcome the Obama administration's modernisation efforts. On the other, many worry that the gas solution may prove more chimera than solution, and potentially derail the country's renewable energy momentum. We turn next to examining the increasingly combative politics of gas.

5
Unconventional Gas and Social Licence: Locking the Gate?

Introduction

The gas industry worldwide is flourishing, with gas shaping up as the new century's energy gold rush. Viewed as less emissions-intensive than coal – although this is vigorously contested – gas is staking its claim as the cleaner transition fuel of choice. The International Energy Agency (IEA, 2012, 2013) reports that we are in the midst of a 'golden age of gas', with gas predicted to overtake coal to provide a 25 per cent share of the global energy mix by 2035. This would make it second only to oil (IEA, 2012: 10). Conventional gas resources such as Liquefied Natural Gas (LNG) have been stepped up to meet the rapidly increasing energy demands of nations and consumers across the globe, particularly the markets of China and India. But it is the newly emergent unconventional gas industry that is experiencing some of the most stellar growth. This is particularly so in the United States, but many other countries are also undergoing unprecedented expansion of their unconventional gas resources. With recent technological innovations such as horizontal drilling facilitating access, the IEA estimates that technically recoverable unconventional gas reserves worldwide are approaching size equivalence to available conventional ones. In the United States, the shale gas boom is expected to provide over half of its domestic supplies of gas in 20 years. Australia too is experiencing its own unconventional gas boom, especially in the states of Queensland (QLD) and New South Wales (NSW). While not of the scale of its counterpart in the United States, the unconventional gas industry in Australia has gone from relative obscurity just a few years ago to assume a burgeoning status today.

But unconventional gas' prodigious promise is not universally embraced. Indeed, while the unconventional gas rush may be gathering

momentum, so too is the opposition to it. This opposition revolves around the mining industry's main social responsibility norm – the social licence to operate (SLO). SLO is a dominant narrative in the mining sector today and, as a signifier of the sector's CSR credentials, the term is a powerful one. Its capacity to confer project legitimacy, and hence avoid the financial and reputational risks of community contestation, helps explain why most companies will seek to gain one. Both mining proponents and opponents talk the language of social licence; the former to legitimise their projects, the latter to challenge them. A SLO is very different from a legal licence to operate. Most mining operations have legal status and legislative sanction, and can proceed even in the absence of a SLO. A social licence thus treats legal and regulatory approvals as a first step in the legitimation process; it is consent and approval from community stakeholders that seals it. But many projects do not enjoy a SLO and companies continue to pursue their projects even in its absence, often through the conduit of favourable government-business relations.

The notion of social licence – but particularly its absence – shines an unwelcome spotlight on the mining industry's CSR credentials. It threatens to expose what many claim is the rhetorical vacuity of CSR in this domain. But governments are also in the spotlight. With governments more likely to be the industry's champions than critics, they too find that close scrutiny is paid to the regulatory regime they erect to oversee gas mining. Many of these governments utilise a modernisation narrative to curry more support for the industry, promising to create a robust regulatory framework that embeds community protection as the top priority. Many also highlight the contributions that gas can make to a cleaner energy future. While the expansion of unconventional gas mining is presented as fundamentally win-win – a win for the economy and a win for climate mitigation – not all are convinced, and its contestation gathers apace.

This chapter considers the unconventional gas industry's utilisation of social licence norms to manage the controversy that besets it. Its first few sections describe the nature of unconventional gas vis-à-vis its conventional counterpart, considers the European experience of unconventional gas and examines the factors that make unconventional gas particularly problematic. The chapter then turns to a more detailed exploration of the unconventional gas industry in the United States and Australia. These two countries have both extensive gas industry operations and extensive contestation of them – contestation that increasingly occurs through a social licence frame.

The rise of unconventional gas

A main difference between conventional and unconventional gas is the nature of the geological reservoir from which the gas is extracted. Both gases are largely composed of methane, with the concentration of methane higher in coal seam gas (CSG). Unlike its conventional counterpart, which is generally easier to access, unconventional gas is held in tighter geological formations and low permeability rock that restricts the gas' flow. Accessing this gas usually requires high intensity drilling and hydraulic fracturing, or 'fracking', to release the gas from various geological reservoirs. The geographical spread of the gas also expands the number of required wells. There are three main types of unconventional gas: shale gas, tight gas and CSG, also referred to as coalbed methane. Shale gas is extracted from clay-rich sedimentary rock formations commonly found at considerable depths; tight gas is found in a variety of rock pores; and CSG is extracted from coal seams at depths relatively close to the surface, after water that prevents its flow is removed. Extraction methods for much unconventional gas, especially shale and tight gas, requires hydraulic fracking – which involves the injection of water, sand and a variety of chemicals to loosen the gas from its geological structures. Fracking is not always required in the case of CSG, but it does require the extraction of large volumes of water which prevent the gas' flow (generally labelled 'produced water').

Two interconnected elements of unconventional gas extraction are particularly pertinent for understanding the controversy that surrounds it. First, unconventional gas' footprint is extensive. As the IEA (2012: 18) points out, the significance of unconventional gas resources is 'not just in their size but also in their wide geographical distribution which is in marked contrast to the concentration of conventional resources'. It has recently been reported that over 15 million Americans live within 1.6 kilometres of an oil or gas well (Goldenberg, 2014). In Australia unconventional gas is mostly concentrated on the east coast, often close to regional centres and even major cities such as Sydney. Second, the industry's footprint is a highly visible one. The decentralised character of the industry means that its numerous wells are spread widely across the landscape. Wells can be located in isolated environments, but their presence also features in more populated areas and on urban fringes. Compared to its conventional counterparts, the decentralised character of the unconventional gas industry hence affects a greater population across a wider regional expanse, including urban and semi-urban communities. This underpins its controversy and its difficult politics.

These features, together with the 'rush' the industry has experienced, raise highly charged issues of democratic and community rights, particularly the rights of communities and individuals to contest and resist what many see as 'incursions'.

Unconventional gas in Europe

While Europe looks to countries such as the United States and Australia with much interest, thus far there has been limited unconventional gas mining occurring there. Europe has limited onshore oil and gas production, and only a small number of exploration wells have been drilled (Spencer et al., 2014: 28). However, the scoping for technically recoverable reserves and the potential development of unconventional gas mining has only recently begun in Europe – despite the fact that it imports well over half of its gas and would presumably be interested in developing its own resources. While estimates differ widely, Poland, Romania and France boast some of the largest reserves, and Denmark, the United Kingdom and Sweden smaller ones (Spencer et al., 2014: 29; see also Johnson and Boersma, 2013).

The future of European gas is nonetheless problematic. A number of factors militate against the rapid development of an unconventional gas industry in Europe. Some countries, such as France, are stridently opposed and have placed an outright ban on its development. This surprises some as France has potentially abundant reserves, and some history with oil production. However, strong public opposition, particularly to the potential despoliation of picturesque environments and a lack of public consultation, has hardened France's opposition to the industry (IEA, 2012: 125–6). Whether this will be reversed in the future remains to be seen. Other bans are currently in place in Bulgaria, the Czech Republic, the Netherlands and parts of Germany.

From a more economic and technical perspective, a number of factors problematise the roll out of the unconventional gas industry in Europe. These include subsurface geological conditions (with European shale tending to be deeper and smaller); service industry constraints (drilling capacity and labour availability); land access (impacts of a more densely populated continent) and environmental regulations (the presence of more stringent environmental protection regimes) (Spencer et al., 2014: 29–30). The European Union (EU) also subscribes to the Lisbon Treaty, which mandates that the precautionary principle be taken into account in the proposed utilisation of new technologies. This has the effect of tightening the regulatory framework which further constrains

the industry's operations there (Johnson and Boersma, 2013: 391; IEA, 2012: 122–3). Unlike parts of the United States, in Europe the state owns the mineral resources, which reduces individuals' financial incentive for pursuing the industry. The overall implications of these technical, geographical, economic, legal and political realities is that exploration for unconventional gas in Europe is likely to be slower and more circumspect than the rush experienced by their American counterparts. In addition, LNG originally intended for the North American market from several Middle East locations has now been diverted to European and Asian markets, ensuring that shortfall is not an immediate issue; and the shift to gas-fired electricity generation in the United States has reduced the price of coal and made it more readily available elsewhere (Johnson and Boersma, 2013: 390). But the European potential should not be discounted altogether, with the EU currently exploring the industry's future viability.

Poland and the United Kingdom have in any case embarked on a cautious exploratory path. With an eye on its political past, Poland looks favourably on reducing its reliance on Russian gas, and its potential shale gas reserves would allow it to do just this. Yet it is not expected that any significant shale gas production will occur there any time soon. It is nevertheless better placed that some other European countries to do so, since it has already had considerable experience with oil and gas production. Poland's openness to the unconventional gas industry, and its generally lower population density, has generated interest from a range of oil and gas corporations. This has resulted in the issuing of over 100 exploration licences, even as early exploration has proved disappointing (IEA, 2012: 124). To accommodate potential future developments, Poland's government passed a new Geological and Mining Law in 2012 which amended Poland's minerals rights regime to better clarify the division between state's rights and individual ownership rights, even as the state continues to assume overriding sovereignty (IEA, 2012: 125). Poland's community is relatively enthusiastic about shale gas development in their state, motivated primarily by their ambition for energy security and independence. But this ambition has yet to be tested against the on-ground reality of gas exploration and production. As Johnson and Boersma (2013: 397) contend, '[p]ublic opposition there has so far been barely visible, but so has the extent of exploratory drilling' making it 'too early to assess to what extent the Polish public would welcome large-scale gas development'.

In the United Kingdom, negative publicity that linked fracking with seismic activity delayed industry activity there, but shale gas exploration

and potential production has now been approved. The current Cameron government is an enthusiastic supporter of the industry, with a parliamentary inquiry in 2011 concluding that a well-regulated industry could make a significant contribution to the country's economy (IEA, 2012: 127–8). Not all Britons agreed, however, which has led to a vigorous public debate about the future of the shale gas industry in Britain. This has prompted the British Prime Minister to comment that if '[f]racking has become a national debate in Britain ... it's one that I'm determined to win' (in Cotton et al., 2014: 428). In their overview of shale gas discourse in Britain, Cotton et al. (2014: 436) find that, in promoting its case, the government highlights the economic and energy security benefits of the industry to the detriment of environmental and community concerns. They expect that this 'bias' will intensify opposition to the industry rather than ameliorate it.

A social licence to operate

Mining is often a magnet for community discontent. Compared to other sectors, mining can have a very significant impact on both society and the environment, which helps explain why the mining sector's social responsibility norms are held up to closer scrutiny. Having governments on side and a legal licence to operate does not necessarily protect miners from this discontent; indeed, it can often exacerbate it if the community perceives that the legal licence was too casually granted. As discussed in Chapter 3, in today's increasingly transparent world 'out of sight, out of mind' no longer holds, and particularly does not do so in an industry with such a visible geographical footprint. The mining industry has learned some of the lessons of past transgressions and conflicts, improving its operations and engagement processes considerably over the past few decades, often through the conduit of CSR (O'Faircheallaigh, 2013). But this has not prevented better informed communities demanding even higher performance and accountability standards, which has tended to increase conflict rather than decrease it (Hodge, 2014). A social licence offers the mining sector a strategy for managing these challenges and is increasingly used as a bargaining chip in the winning of community approval.

It is thus no surprise that over the past decade or so, the notion of SLO has established itself as a dominant narrative in mining (see Raufflet et al., 2014). A social licence signifies community acceptance of proposed operations and, more broadly, the mining sector's CSR credentials. The language of social licence has so penetrated contemporary mining that

all sides have seemingly embraced it – miners to legitimise their projects, opponents to contest them. True to its CSR origins, a SLO seeks to go beyond compliance – that is, beyond its legal licence conditions and regulatory requirements – and treats the approval process as two-step. The first step sees companies securing the necessary legal and regulatory approvals; and the second, community sanction. The holding of a social licence protects both company reputations and their bottom lines. As we observe in our upcoming cases, sustained community contestation can prove costly on both counts. A social licence thus responds to

> the demands on and expectations for a business enterprise that emerge from neighbourhoods, environmental groups, community members, and other elements of the surrounding civil society … which may be tougher than those imposed by regulation, resulting in 'beyond compliance' corporate environmental measures even in circumstances where these are unlikely to be profitable. (Gunningham et al., 2004: 308)

The term first arose in the late 1990s in World Bank discussions about the best way forward for an industry that, in the face of a number of scandals and disasters, had increasingly become the target of contestation (Kuch et al., 2013: 5). Most industry actors now utilise social licence as a form of strategic risk management to becalm their opposition. Indeed, '[r]ecent research has shown that SLO is increasingly becoming a core component of business activity for resource companies in Australia' and worldwide (2013: 5). A social licence is hence 'a pragmatic calculation' designed to minimise financial and reputational risk through strategic community engagement (Owen and Kemp, 2013: 31). A social licence activates CSR's accountability and transparency norms by instigating 'a process whereby companies "account" to stakeholders for their performance across a range of sustainability dimensions' (2013: 33).

While precise definitions of the SLO are elusive, the term, like CSR discourse as a whole, places the notions of legitimacy and trust at its core. As the Minerals Council of Australia observe, the social licence is

> an unwritten social contract. Unless a company earns that licence, and maintains it on the basis of good performance on the ground, and community trust, there will undoubtedly be negative implications. Communities may seek to block project developments; employees may choose to work for a company that is a better corporate citizen; and projects may be subject to ongoing legal challenge, even after

> regulatory permits have been obtained, potentially halting project development. (MCA, 2005)

Hence, only by respecting the duties and responsibilities it owes to the broader community in which it operates can a company be said to have earned its social licence. The sense that it needs to be won is hence fundamental to the notion. A company wins its social licence when it conducts its operations in particular ways. At a bare minimum the company would strictly adhere to legislative requirements, regulations and standards; but it would also seek to do better where it could, particularly by ensuring that it engages with the community in decision-making that directly affects it – and, importantly, makes changes where necessary. Those that 'confer' the licence vary, but it is generally accepted that it is communities impacted by mining that 'issue' a social licence (Prno, 2013: 584).

Companies can of course still operate in the absence of a social licence. The licence, after all, is not a tangible, legal contract. While many companies do continue their operations even in its absence, many others will not wish to proceed without one and will seek to put measures in place that would help them win it. Since governments are also the targets of community discontent, some will pressure companies to undertake more effective community engagement – either formally or informally. Some companies will not be shifted, however, and will take a combative approach when confronted with sustained contestation. They will vigorously assert their rights by emphasising their legal licence, their strict attendance to its conditions and the unreasonableness of the community response. Often buttressed by the strong support of governments, who have their own interests in seeing the operations proceed, these companies will often disparage their opposition and continue to ply their trade.

Most companies, however, will avoid such a course of action and adopt a more strategic response. While they too stress their strong legal compliance, they are more likely to emphasise their preparedness to compromise, to undertake further community engagement and to perhaps modify their operations. They are also likely to highlight their commitment to CSR, including to reporting measures such as the Global Reporting Initiative and other world standards (Raufflet et al., 2014). They recognise that a social licence is the new standard in today's commercial environment – and one that is as likely to save them money as to cost it. As Gunningham et al. (2004: 308) argue, many corporations today 'no longer perceive their social obligations as necessarily synonymous with

their legal obligations'. Companies now clearly distinguish between legal and social licences, recognising that the first by no means guarantees the second. But the approach a company takes also depends on who they are, where they are and what the expectations of them are. Governments hence play a critical role in the exercise of a social licence.

The golden rules of a social licence

Most social licence research concludes that transparency, trust and community engagement are central components of a SLO. In a study of the mining sector Moffat and Zhang (2013: 61) found that the community's trust in the company played a key role in securing and maintaining a social licence (see also Hodge, 2014). This trust was composed of two interrelated elements: integrity-based trust ('which relates to the trustor's perception that the trustee is adhering to a set of principles') and competence-based trust ('that refers to the trustor's view that the trustee ... has the skills and knowledge necessary to manage the particular issues of interest to the trustor or community') (Moffat and Zhang, 2013: 62). Boutilier and Thomson (2011) also highlight the centrality of trust in the conferring of a SLO. They understand 'interactional' trust as the 'perception that the company and its management listens, responds, keeps promises, engages in mutual dialogue, and exhibits reciprocity in its interactions'; while 'institutionalised' trust ensures that the relationship between stakeholder organisations and those of the company are based on mutual respect and regard (2011: 4).

Prno (2013) identifies similar factors in his own analysis of four international cases. He considers, first, that 'context is key': there is no 'one-size-fits-all' approach since each project and each community is unique and distinctive. This means that 'unique combinations' of local social, economic and environmental factors will condition the community response to specific mining projects (2013: 584–5). Second, mutually respectful relationships between the community and the company are also critical to the winning and maintenance of a social licence (2013: 585–6). Third, while sustainability concerns dominate, each community will understand these concerns differently; importantly, 'whether [negative] impacts are actually occurring is largely irrelevant' if locals 'perceive' otherwise (2013: 586). Fourth, fairness in both the distribution of local benefits and the consultative processes that decide them are pivotal to the gaining of a social licence (2013: 586–7). Finally, stakeholders are more likely to confer a social licence if a company is adaptable and flexible, especially in the face of how communities consume and respond to complex technical factors (2013: 587–8).

The IEA has collated these kinds of trust and legitimacy factors into a framework they label the social licence's 'Golden Rules'. The seven rules crystallise a set of behaviours which are intended to increase public confidence in the harried unconventional gas industry. These rules include '*measure, disclose and engage*': which refers to the importance of undertaking robust research, including baseline studies, before gas developments begin; '*watch where you drill'*: which requires careful site selection, surveying and monitoring; '*isolate wells and prevent leaks*': which involves effective well design that minimises disturbance and spill-overs; '*treat water responsibly*': which demands the maintenance of water integrity through the sustainable management of storage, disposal and chemicals; '*eliminate venting, minimise flaring and other emissions*': which entails the minimisation of greenhouse gas emissions throughout the whole extraction and production cycle, including from vehicles and equipment; '*be ready to think big'*: which involves giving consideration to cumulative economic, social and environmental impacts on communities; and, finally, '*ensure a consistently high level of environmental performance*': which requires that companies go beyond compliance, particularly by committing to innovation and independent evaluations (IEA, 2012: 13–4; emphasis added).

These rules seek to ensure that, in the face of the many challenges the unconventional gas sector confronts, its considerable potential is maintained. As the IEA concludes:

> Without a general, sustained and successful effort from both governments and operators to address the environmental and social concerns that have arisen, it may be impossible to convince the public that, despite the undoubted potential benefits, the impact and risks of unconventional gas development are acceptably small. ... [The golden rules act] as a contribution to the solution of this dilemma ... suggest[ing] what might be required to enable the industry to maintain or earn a 'social licence' to operate. (IEA, 2012: 15)

We condense these rules into three broad legitimacy themes before applying them to our case studies: *social legitimacy*, which includes transparency, accountability and effective community engagement measures; *environmental legitimacy*, which demands adequate studies and the disclosure and monitoring of chemicals, impacts on water quality and emissions; and *economic legitimacy*, which guarantees accurate information about, and a sharing of, the economic benefits of gas projects. The

IEA may be directly targeting the gas industry with these rules, but it also has government in its sights. As the agency maintains, while 'the ultimate responsibility for sustaining public confidence rests with the industry, it is governments that need to set the regulatory framework, promulgate the required principles and provide [research] support' (IEA, 2012: 49).

Contested issues

Unconventional gas production is an 'intensive industrial process' which imposes a larger footprint than conventional gas (IEA, 2012: 9). Unlike conventional gas production, which is geographically confined, unconventional gas requires the drilling of a large number of wells dispersed across a much greater geographical space. The process of extracting the gas is particularly contentious. Shale gas, tight gas and CSG, or coalbed methane, are extracted from low permeability reservoirs by drilling at different depths. While shale gas extraction relies on hydraulic fracturing, CSG extraction varies, utilising fracking when confronted with resistant seams. In the case of CSG, the gas is held in place by water which needs to be removed before the trapped gas can be released – labelled 'produced' water. The gas then flows through natural and induced fractures in the coal seams and is usually extracted from relatively shallow depths. However extracted, unconventional gas relies, in various combinations, on drilling, fracking and large-scale water usage – factors that underpin its contestation.

Water impacts

One of local communities' greatest concerns is the potential impacts of drilling and fracking on water tables and water quality. The risk of contamination to surface water and groundwater in turn impacts on land use in the areas where gas mining occurs. Communities also worry about the health impacts of this potentially contaminated water, especially if it contains chemicals residues. A lack of trust in the adequacy of the studies companies and governments rely on exacerbates this uncertainty. The IEA (2012: 10) considers that '[r]igorous assessment and monitoring of water requirements (for shale and tight gas), of the quality of produced water (for coalbed methane) and of waste water for all types of unconventional gas' is critical to the future of gas mining. CSG production, for example, is a water-intensive activity. With the industry often sitting side by side with agriculture, the potential impact of CSG activity on water basins – often, a farmer's lifeblood – is particularly concerning.

In Australia, a major issue concerns gas mining's impact on the Great Artesian Basin – one of the world's largest underground water reservoirs. The Basin runs under at least 20 per cent of the Australian continent including beneath many arid and semi-arid parts of QLD, NSW, South Australia and the Northern Territory. Any disturbance to the Great Artesian Basin would have significant repercussions in a number of areas.

The treatment of CSG's produced water is also contentious, both in terms of the volume of water that is extracted, and its waste management. As the 2014 Commonwealth Scientific and Industry Research Organisation (CSIRO) notes, the degree to which 'water extraction poses a problem will depend largely on the interaction, if any, between CSG production and aquifer systems and on what is done with the produced water'. Studies in the United States have indicated that significant depletion of aquifers has occurred as a result of produced water, even as degrees of recovery can occur once the mining activity ceases; further studies have indicated an increased level of salt and other minerals in some geographical areas (see IEA, 2012: 36). Produced water's saltiness makes it unsuitable, without effective treatment, for reuse in irrigation or for reinjection into suitable aquifers (CSIRO, 2014). The IEA (2012: 35) points out that the 'options for treatment and disposal of produced water and the market value of water in the near vicinity are often key factors in the economics' of CSG production. In the past, untreated water was left to disperse in evaporation ponds. This occurred in the Australian state of QLD until 2010, when the practice was stopped due to concerns over saline leakage into aquifers and river systems. Produced water is now generally placed in wastewater holding ponds awaiting potential treatment and recycling. However, leaks in these holding ponds do occur, as was recently exposed in a northern NSW site (Hannam, 2014b). Adequate and effective monitoring is hence critical, but, as Currell (2014) points out, '[m]onitoring and management of produced water is not a simple task when considering the number of gas wells' involved.

The extent and scale of well activity in unconventional gas mining hence magnifies these risks. With CSG, these risks also vary according to site geology, the volume of extracted water, the 'connectivity' of coal seam and the aquifer, the aquifer's recharge rate and the duration of the pumping and extraction (IEA, 2012: 36). Since the extraction occurs much closer to the surface, there is an increased risk of aquifer contamination through the use of chemicals or disturbance to the site's geology (2012: 133). Shale gas extraction, by contrast, is a water-intensive activity

that uses large volumes of water during the fracking process. This high water use is particularly problematic in areas with water shortages, and risks lowering water tables; in addition, its transportation to and from water sources intensifies both vehicular traffic and community disturbance (2012: 30–2).

The IEA (2012: 35) sums up the overall risks of water use and contamination in unconventional gas extraction. These include

- Accidental spills of fluids or solids (drilling fluids, fracturing fluids, water and produced water, hydrocarbons and solid waste) at the surface.
- Leakage of fracturing fluids, saline water from deeper zones or hydrocarbons into a shallow aquifer through imperfect sealing of the cement column around the casing.
- Leakage of hydrocarbons or chemicals from the producing zone to shallow aquifers through the rock between the two.
- Discharge of insufficiently treated waste water into groundwater or, even, deep underground.

Socio-cultural impacts

The socio-cultural impacts of unconventional gas production are equally discomforting. Visually, the landscape is impacted by the sheer number of well structures, with communities also subjected to increased truck and other vehicular traffic, construction and compressor noise, and dust and particle pollution. A community's way of life can thus be significantly disrupted. The following describes a Texan resident's lived experience of residing near large- scale gas developments:

> It's impossible to drive for any length of time without seeing the signs, even after the rigs have moved on elsewhere: the empty squares of flattened earth, the arrays of condensate tanks, the compressor stations and pipelines, and large open pits of waste water. Virtually no site is off limits. Energy companies have fracked wells on church property, school grounds and in gated developments. (in Goldenberg, 2013b)

For some, the very identity and status of agriculture and farming feels threatened. They consider that gas mining pits farmers against miners in a David and Goliath struggle that farmers feel unequipped to win, especially since miners appear to enjoy the fuller blessing of governments. With their economic viability seemingly threatened, many agricultural communities feel both abandoned and diminished.

Historically, mining and farming have co-existed relatively harmoniously in both Australia and the United States. In part this was because large-scale mining operations were often concentrated in relatively remote regions. In Australia, for example, they affected a relatively small, often Indigenous, population base. The *Australian Native Title Act* of the 1990s conferred Indigenous communities some land tenure and negotiation rights, but this did not largely alter the state's minerals sovereignty and development plans. While each of the Australian and American states has its own regulatory regime, the perception remains that these regimes reflect an overall bias towards mining. As we observe in both our United States and Australian cases, communities often question the efficacy of their democratic rights, the seeming collusion between governments and the gas industry, and the legitimacy of industrial operations that seemingly privilege the rights of one section of the population over another.

Greenhouse gas emissions

Another growing concern is the contribution of unconventional gas production to greenhouse gas emissions. Unconventional gas generates significantly more production-related, or fugitive, emissions (largely methane) than conventional gas, particularly when the full production cycle is taken into account (IEA, 2012: 38). Methane is a particularly potent greenhouse gas. In a 2012 Australian study undertaken by scientists from a local university the authors noted that

> Unintentional or fugitive greenhouse gas emissions from CSG activities are as yet poorly understood. In conventional gas fields, the fugitive emissions are relatively well constrained due to the more localised infrastructure and smaller number of high production wells. Measurement of fugitive emissions from CSG fields is more complicated due to the decentralised infrastructure, and large number of well heads. (Santos and Maher, 2012: 2)

In attempts to redress this knowledge gap, the authors used a new methodology to measure the level of methane and carbon dioxide in specific drilled CSG sites in QLD, Australia. They found that a significant presence, or 'wide spread enrichment', of methane and carbon dioxide within the gas field area, a presence significantly higher when compared to a non-gas field site. They concluded that '[u]nbiased estimates of fugitive gas emissions from CSG mining are urgently needed so that the

society can have a well-informed debate' (2012: 3). In particular, these estimate studies should

- determine baseline concentrations of greenhouse gases in the atmosphere before any CSG developments
- identify gas leakages from infrastructure, including compression stations and long pipelines, and
- develop an early warning system in which action can be taken if specific methane concentration thresholds are reached. (2012: 3)

The IEA concurs that 'additional scientific work' that systematically addresses these concerns is 'very important' in all countries with an active unconventional gas industry (IEA, 2012: 40).

These concerns emerge in the context of the broader debate about gas' role as a transitional fuel. The claim that gas – which remains a fossil fuel – emits half the greenhouse gases of coal is increasingly disputed (see Howarth et al., 2011 in IEA, 2012). While burning of the gas in electricity generation may lower the level of emissions, when the full cycle of natural gas is taken into account – that is, production, transportation and use – gas can make a significantly higher emissions contribution than first claimed. Referring specifically to shale gas production, Howarth et al. find that

> Methane contributes substantially to the greenhouse gas footprint of shale gas on shorter time scales, dominating it on a 20-year time horizon. The footprint for shale gas is greater than that for conventional gas or oil when viewed on any time horizon, but particularly so over 20 years. Compared to coal, the footprint of shale gas is at least 20 per cent greater and perhaps more than twice as great on the 20-year horizon and is comparable when compared over 100 years. (2011: 679)

The IEA (2012: 40) too concludes, that the '[d]ifferent assumptions about the level and impact of methane emissions can have a profound effect on the perception of gas as a 'cleaner' fuel.

Property rights

The controversies around unconventional gas production are exacerbated by perceptions that, in their haste to accrue the significant revenue that flows from gas mining, governments approach property rights insensitively. The sensitive treatment of private property rights – both

formal and 'perceived' – is a key concern for communities affected by gas mining. In Australia, a freehold landowner may own the land, but mineral and petroleum resources belong to governments, which in turn grant exploration or operational licences to industry. Farmers can negotiate compensation payments, but in the absence of direct ownership rights like in some regions in the United States, the financial incentive is comparatively minimal. But revenue in one form or other is particularly attractive for state governments whose federal arrangements can restrict their revenue-raising powers. Importantly, however, long-standing cultural attachment to land and regions can imbue landholders with notions of 'perceived rights' that resonate just as strongly as legal ones. This is of course nowhere more starkly illustrated than in the case of Indigenous peoples' attachment to land. But these cultural attachments also apply more broadly. As one Australian study found, in conclusions that are applicable elsewhere:

> These 'new' extractive industries are contesting farmers' long held views that they have a right to decide who has access to their property and a right to decide what happens on their land. While miners may have a legal right to access property, farmers have a *perceived right* to exclude them based on governments having historically failed to act on their ownership of underground resources in many closer settled agricultural areas of Australia. (Kerr, 2012: 43, emphasis added)

Australia's main anti-unconventional gas NGO – the *Lock the Gate* alliance – and one of the United States' major sister organisations – *Americans against Fracking* – theorise and legitimate their contestation of the gas industry in part on this basis. We turn next to considering these issues in our two country cases.

Australia

Like some of its international counterparts, the unconventional gas sector in Australia has emerged from seemingly nowhere to assume quasi-boom status in a relatively short period – albeit on a much smaller scale than in the United States. This has caught much of the Australian community by surprise. This is despite the fact that CSG production has been well established in QLD since the 1990s and makes a substantial contribution to the state's domestic gas supplies. But with the QLD industry operating in often isolated and sparsely populated environments, at considerable distance from cities and major urban centres, it has been out of

sight and hence relatively uncontroversial. While exploration licences for unconventional gas were issued quite a number of years ago across Australia, the combination of these licences' upcoming expiry and the development of innovative technologies for extracting unconventional gas has driven the exploration boom. Much of the activity centres on CSG, but tight and shale gas resources are looking to gradually increase their stakes in Australia's unconventional gas market.

Natural gas is expected to increase its stake in Australia's energy market considerably over the next few decades, with Australia poised to become the world's second-biggest exporter of LNG by 2015 (Australian Government, 2012a). CSG is expected to make an important contribution to this. However, it is CSG's export growth that most excites the industry. In January 2015, the first shipment of LNG left the port of Gladstone in QLD bound for its Asian export markets. Importantly, CSG was for the first time a part of this, with QLD's Curtis Island liquefying project the first in the world to transform CSG into a transportable fuel (ABC Rural, 2015). Within two years, CSG exports from Australia are expected to fill several hundred gas cargo ships annually (2015).

Thus far, however, with much of the LNG industry off-shore, the production of gas has generated only limited controversy in the Australian community, although recent projects, such as the proposal for a large-scale on-shore LNG plant at James Price Point in the Kimberley region of Western Australia, have proved particularly controversial (see O'Faircheallaigh, 2015). The CSG boom, by contrast, has occurred most notably in several main coal basins in Eastern Australia, especially in the Bowen and Surat basins in QLD and the Sydney, Clarence-Moreton, Gunnedah and Gloucester basins in NSW. The upsurge of CSG production was fuelled by QLD government policy in 2000 that mandated the sourcing of 13 per cent of the state's electricity from gas, rising to 18 per cent by 2012 (Australian Government, 2012a). While interest in shale and tight gas resources is mounting, at present much of the activity centres on CSG. In 2013, approximately 30 per cent of Australia's gas supply was sourced from CSG. In the state of QLD, which, as we saw, has been producing CSG since the late 1990s, the majority of gas, for both domestic and commercial use, is currently sourced from CSG. A snapshot of one community's encounter with rapid CSG activity in their region is illustrative of the contemporary CSG experience in Australia.

CSG in the Northern Rivers

Situated close to the QLD border, NSW's Northern Rivers region hosts a distinctive and eclectic community. Its geography spans extensive

pastoral holdings, major river systems, world heritage forests and iconic coastal regions and towns. Its main industries include agriculture, forestry, fishing and tourism, and its demographic and cultural profile is a diverse one. Its long-standing farming communities accommodated an influx of 'alternative' lifestyle seekers in the 1960s and 1970s, and, more recently, a 'sea- and tree-change' urban middle class from Australia's major cities. The area boasts an impressive natural environment and some of the world's best surfing beaches, particularly in the tourist mecca town of Byron Bay and other coastal communities. In 2011, the population of the region was approximately 300,000. Vibrant year-round tourism swells these numbers considerably, especially in the coastal regions.

Exploration licences for unconventional gas in the region have been held by a number of mining companies for many years, but, as in other regions of Australia, they have only recently been activated on a substantial scale. Three main companies – Metgasco, Dart Energy and Clarence Valley Resources – have been drilling for coal seam and tight sands gas in the region since 2008. The drilling of a well in the Keerong Valley by Dart Energy's predecessor, Arrow, triggered community awareness of unconventional gas activities in the region and prompted the formation of the anti-CSG opposition in 2010 (GFNR, 2015). A well-informed community were hence alert to CSG operations in their region from the outset, and, on the basis of knowledge gleaned from unconventional gas developments in countries such as the United States, treated them with considerable suspicion.

Metgasco has been exploring for gas in the NSW's Clarence Moreton Basin for over ten years. In late 2012, it was approved to drill new wells in a gas field near the town of Casino (see GFNR, 2015). But, in the face of sustained and growing contestation of its activities, Metgasco discontinued these drilling operations in March 2013. According to its managing director, Metgasco was forced to suspend 'field operations when the NSW government announced major changes to regulatory and administrative procedures', ostensibly in response to the demands of hostile communities (Metgasco, 2013). These changed 'procedures' included expanded buffer zones and tighter operational conditions. But with an eye on more conducive political settings, it also noted that 'recent regulatory and political developments, particularly since the September federal [2013] election, have encouraged Metgasco to initiate the activities necessary to enable field operations to recommence' (Metgasco, 2013). These more favourable political settings referred to the election of the Abbott Federal Government which is considered a

very strong supporter of the industry. This resumption was to begin in early 2014 in its new site labelled the Rosella Well.

Accordingly, Metgasco's new drilling was scheduled for April 2014. After receiving environmental assessment approval, it proceeded to the exploration of its new well. In an attempt to deflect the negative connotations attached to the term CSG, Metgasco now dubbed it 'natural gas' and highlighted its renewed focus on conventional and tight gas. Despite this discursive renovation, the company's planned operational resumption swelled the community opposition to it – an opposition whose previous contests had honed their contestation skills. A well-organised 'tent city' of opponents gathered on the border of the proposed site, successfully utilising the armoury of non-violent resistance to block its gateway and showcase its numbers. With up to several thousand opponents on call, the site proved a potent and highly visible symbol of the region's defiance. Nor could this defiance be tactically dismissed by the company as the usual green or 'hippy' suspects – a routine corporate counter-strategy. Instead, this opposition was made up of an eclectic collection of farmers, small business operators, environmentalists, professionals and 'ordinary' community members.

An exit poll taken during the 2012 local government elections in the region's major city Lismore captured the near-unanimity of this opposition. Administered by the Australian Electoral Commission, the poll asked 97.2 per cent of eligible electors whether they supported the CSG industry in their region and found that 87.2 per cent of respondents were opposed (Luke and Lloyd, 2013). Those in support highlighted the job prospects and economic spill-overs of gas mining, particularly in a regional area vulnerable to high unemployment. Those opposed stressed the industry's potential environmental, social and health impacts, particularly its effect on water quality, the agricultural sector and local amenities. The report's authors also identified direct social licence concerns, finding that 'survey comments also raised community concerns relating to topics such as corporate responsibility, transparency of process, information sharing and public education' (2013: 1).

Social licence and CSR

Metgasco's planned industry resumption was short-lived in any case, with the NSW government suspending its licence to operate in May 2014 – a decision which is now in litigation in the courts. Several reasons explain this suspension, but the proffered justification is a particularly interesting one. The state government claimed that the company had

not undertaken sufficient community engagement to earn its social licence; in short, that it 'did not fulfil a condition of its exploration licence, namely to undertake genuine and effective consultation with the community as required' (in Nicholls, 2014). Clearly, the size, visibility and political literacy of the community's opposition contributed to this decision. But it is also likely that the government's very difficult political straits at the time motivated both its decision and its justificatory social licence frame. Indeed, the decision was taken in the midst of a highly volatile political climate which included damaging investigations into alleged political collusion which had already felled a serving Premier. Concern that the company and some of its government officials may themselves have been implicated in some approvals 'collusion' (since disproved) also prompted the government's actions. While the suspension was a matter of much celebration in the anti-CSG community, many understood well the political machinations that had in part produced it. Even so, the 'victory' is not to be discounted. As a Greens party MP commented, the anti-CSG 'blockade is a physical manifestation of the social licence and shows that a social licence is not only real, but necessary for an industry like coal seam gas to operate' (in Nicholls, 2014).

Ineffective consultation and community engagement was not confined to the company, however. It was also mirrored at the government level, reinforcing a perception of government bias towards the industry. At a meeting with bureaucratic officials in May 2014, Lismore farmers lamented that they were more knowledgeable and better informed than their official counterparts. They demanded to know why government officials were not adequately monitoring the company's well 'blow-outs' and contaminated water spills. One landholder summarised the tone of the meeting:

> We are all clear in our understanding of the risks and threats associated with industrialisation of our area and are a very well-informed community, familiar with the plethora of evidence documenting the risks and failures of the gas industry. Yet once again, the government has failed to recognise and address community concerns and call for a stop to gas exploration in the Northern Rivers. (in Dobney, 2014)

In short, the landholders declared that they had 'done the research', knew the facts, had seen the actions of the company and were 'resolute … in our absolute determination to stop them' (in Dobney, 2014). Their concerns have more recently been reinforced by the finding that

AGL (another major gas company) had used a particular combination of chemicals in its fracking operations after earlier reassuring the community and government otherwise, prompting the NSW's Environmental Protection Authority to comment that it was 'very concerned at AGL's lack of timeliness and transparency in informing us of these results' (Kendall, 2015). This came on top of an earlier charge that the company's wastewater had been inappropriately disposed (2015).

The capacity to manage such fractious relations goes to the heart of CSR's ambition and, most particularly, its social licence norms. Yet, in the case of one company at least, the response to social licence concerns was less than reassuring. From the outset, Metgasco sought to sidestep the community's contestation of its social licence by re-emphasising its legal licence and its regulatory authorisation, urging governments to respond in kind. In several letters sent to state officials in 2013, Metgasco's CEO admonished governments for not protecting the company's legal and commercial interests. A first letter, on 23 January 2013, warned that 'exploration and development activity of all kind will come to a stop in NSW if companies who have valid and government approved work programs can have their legitimate activities sabotaged by activists who see themselves as being above the law'; this forced the company to demand 'stronger police action and the imposition of mandatory sentencing of those who are found guilty' (in Broome, 2014). A follow-up letter, on 6 February 2013, to the then energy minister lamented the government's inadequate response to their policing requests and restated the urgency of a permanent police presence at the drilling site to contain 'a small, unruly opposition' which would destroy 'resource development and energy supply' in the state if not stopped (2014).

The gas industry often reiterates the widely disseminated claim that only an expanded industry could head off significant gas shortages and quadrupling price rises in the domestic market. The reality, however, is somewhat different. Australia does not have a 'reservation' policy that sets aside some of the locally produced gas for domestic consumption. Most Australian gas is hence destined for a much more lucrative export market, with domestic price rises directly linked to export-parity pricing (see Grudnoff, 2014; Jericho, 2014; West, 2015). As Jericho (2014) explained, unlike in the United States which places limits on its export market, in Australia '[o]nce a market becomes connected to an international market, the domestic price will move to the international price because that is the bigger market … And the problem for those living in the eastern states is that the overseas gas price is much higher than the domestic price'. Local communities would thus not only be affected

by the industry's intrusion, but they would not necessarily benefit in any significant way from it. Regarding gas prices at least, the co-benefit narrative proves singularly hollow. We turn next to examining the unconventional gas experience in the United States, where we observe similar social licence dynamics at play.

United States

The United States is one of the world's largest shale gas producers, and 'the birthplace of the unconventional gas revolution' (IEA, 2012: 101). By 2011, up to 95 per cent of the gas produced for domestic use was generated from domestic sources. The benefits of the gas revolution are widely championed in the United States, particularly since it feeds the national ambition for energy independence. But whether these benefits outweigh the costs remains fiercely contested. Thus far, the gas industry in the United States has been focused on domestic supply, but its plentiful stocks also raise the contentious export issue. The degree to which it proceeds down the export path will depend on national policies and world prices, with a global over-supply threatening to dampen the outlook. The outlook is nonetheless optimistic for the goals of energy security, and for the Obama administration's climate plans.

While unconventional gas has been in production in the United States for the past few decades, it has only recently achieved its prodigious output. As we saw, technological developments in hydraulic fracking, particularly horizontal drilling, helped launch the shale revolution. All of the three main sources of unconventional gas – tight gas, CSG (or coalbed methane) and shale – are in plentiful supply in the United States, with the deposits distributed widely across much of the country, generating a combined expectation of 110 production years (IEA, 2012: 102). The states of Wyoming, Utah, New Mexico, Colorado and Montana boast considerable coalbed methane resources. Tight gas and shale gas resources stretch widely across the country with the largest formations, the Marcellus and Haynesville shale 'plays', as they are routinely called, traversing several states including Texas and Pennsylvania. The Marcellus play in itself stretches across parts of New York State, Pennsylvania and West Virginia. Shale gas extraction relies heavily on fracking, rendering it the most controversial and contested unconventional gas source.

Contestation in Pennsylvania

The documentary *Gasland* by writer and director Josh Fox in 2010 is widely credited with consolidating anti-fracking contestation in the United

States and beyond. Based on his own experience of unconventional gas drilling in his home state of Pennsylvania, Fox highlighted the distressing impacts on communities across the country of shale gas mining. This was followed by *Gasland Part II* in 2013, which focused more directly on the strategies utilised by the gas industry to undermine its opposition. Aside from highlighting the widely shared concerns over fracking – particularly about water quality, methane emissions and community amenity – the documentary also stressed the growing implications for the character and quality of America's democracy. As Fox claims, the second documentary

> is about who gets to tell the story. Do the oil and gas companies get to tell it? Do reporters get to tell it? Do the people who are experiencing it get to tell it? In the film, we tried to take a look at whether or not we have true democratic procedure when it comes to oil and gas. (in van Syckle, 2013)

Of course not all Pennsylvanians are opposed to the industry, as reflected in the wider American community. Many are supportive, having already signed attractive contracts with the various gas companies. The gas boom in Pennsylvania, as elsewhere, has also created tens of thousands of direct jobs and provided nearly one billion dollars in compensation to landowners (Begos, 2014). But resistance is growing which can create uncomfortable divisions between neighbours. As *Gasland*'s director contends, '[w]hen the gas industry comes to you, and you realise that your 19 acres of land is totally surrounded by people who have sold their rights to the gas industry, it's extraordinarily isolating' (in van Syckle, 2013). This growing resistance has challenged the industry's overarching political endorsement, forcing governments and political parties to revise their policy responses – often reluctantly. These responses, like some in Australia, include outright bans, moratoriums, the imposition of tighter restrictions such as expanded buffer zones, the requirement for further studies and pauses in the issuing of new licences.

In Pennsylvania, for example, a moratorium on the issuing of new permits was introduced in September 2013. While over 10,000 permits remain in place, the moratorium created space for an expanded study of the agricultural, environmental and social impacts of fracking. Commenting on the moratorium's introduction, Democratic Senator Ferlo observed that

> We have seen the damage wrought by careless oil and gas drilling companies on our land, water, air, property, families, and livelihoods.

> I have introduced this bill because Pennsylvanians and gas field residents all over the country have been forced to stand by and watch these infractions, and we must take a step back to deliberately and thoughtfully direct our path into the future. (Press Release, 2013)

This moratorium reflects the growing political unease within the Democratic Party at the fervent contestation of fracking across the country. It also helps explain why typically Democratic leaning states such as New York, California and Vermont have instigated bans, moratoriums or restrictions of one kind or other. Lofty claims such as those of President Obama, who views the shale industry as 'a bridge to America's energy utopia', are not shared by all – liberal states or otherwise (see Hauter, 2013).

With a significant portion of the Marcellus play falling within its geographic boundaries, Pennsylvania has been a leading state for the gas industry since 2008. Growing disenchantment with the industry followed a seemingly routine path. It grew in part from increasing frustration that studies promised by the industry (and government) seldom materialised, or with company tactics that undermined the industry's credibility. A common tactic is to deny fracking's impacts by pointing to a lack of conclusive proof. Paradoxically, the industry denies these impacts while resisting calls for the kinds of further studies that would settle the debate. As one commentator observed:

> Over the years, the industry has vehemently denied that its work is a threat, and has often pointed to a lack of conclusive proof that gas drilling operations are to blame for any harmful health or safety issues. The industry has undertaken an array of efforts to quell these worries and preserve its business – lobbying state legislators, conducting its own scientific studies and occasionally settling quietly out of court with landowners who have threatened to sue. (Sadasivam, 2014)

Regulatory environment

The complex legal and regulatory environment of unconventional gas production in the United States complicates matters further. As in the Australian federation, individual states hold considerable jurisdictional powers over their natural resources, even as the federal government has jurisdiction over extensive tracts of land in Western United States (see IEA, 2012: 104). A range of federal laws govern minerals extraction and processing. These include the *Clean Air Act*, the *Clean Water Act* and the *Safe Drinking Water Act* which, as we observed in Chapter 4,

are monitored by the Federal Environmental Protection Agency. But the regulation of water quality affected by fracking is exempted from the *Safe Drinking Water Act*; and disclosure of the toxic chemicals used in fracking is currently released only to government officials or emergency workers (IEA, 2012: 104) – although some states are now requiring or considering fuller disclosure. State-based regulations have contributed to filling some of these regulatory gaps, but the prevailing view at both federal and state levels is that existing regulations offer sufficient monitoring capacity (Davis, 2012: 183). There are nonetheless significant differences in the states' regulatory approaches, which are largely determined by each state's shale 'politics'.

Texas, for example, holds one of the largest proven reserves in the Barnett shale formation and has long been involved with oil and gas production. It had largely welcomed the gas rush. But Texas also shares the usual fears around groundwater contamination, the toxicity of fracking chemicals, the potential for accidents and chemical spills, the usage and disposal of waste and the wider socio-cultural impacts discussed above (see Rahm, 2011: 2975; Davis, 2012). In addition, a lack of clarity over which level of government has regulatory responsibility complicates an already sensitive issue. On a federal level, these issues have been exacerbated by the long-standing community unease over what is seen as too close a relationship between political officials and gas industry executives. Rahm (2011: 2982–77) recounts part of this historical 'collusion' in Texas' 'energy patch' state (see Rosenbaum, 1987), where the energy sector thrived under the administration of George W. Bush and his then deputy Dick Cheney's Energy Task Force. A controversial decision during this time was the omission of fracking oversight from the federal government's *Safe Drinking Water Act* in 2005. This was followed in 2009 by a similar failure to regulate fracking and the disclosure of fracking chemicals. While some progress has since occurred, there remains 'little federal regulatory oversight of [fracking's] drilling practices' (Rahm, 2011: 2977).

Regulatory oversight is not necessarily more robust at the state level, with government-business relations at this level often mirroring those of their federal counterparts. Federal arrangements, as we also observed in the Australian case, can limit states' revenue-raising capacities. Encouraging oil and gas revenue can help redress the shortfall. Davis (2012: 178) contends that, in states rich in oil and gas resources, '[o]il and gas companies were able to forge close working relationships with state regulators who shared the belief that building and maintaining a strong economic base offered multiple benefits for the state'. This

included the establishment of powerful networks between state officials and trade associations directed to a vigorous promotion of the oil and gas industry, often at the expense of environmental protection concerns (Davis, 2012: 178; Eisner et al., 2006; Johnson and Boersma, 2013: 390).

Texas' history of conservative governments, distaste for environment protection and 'big' government and a bureaucracy that often acted more as promoter of the oil and gas industry than its regulator, help explain its 'regulatory poverty' (Rahm, 2011: 2978; Davis, 2012: 183). The land and minerals tenure regime also complicates and embattles shale production in Texas. With the complex separation of surface land and under-surface mineral rights, and with legislation that can work in favour of the oil and gas industries, even landholders who gain financially from leasing their land for mineral exploration can find their rights significantly circumscribed. As Rahm observes, the volume and disposal of wastewater and the overall impact on their surface landholding is out of their control; in addition 'urban dwellers who find themselves unexpectedly living in a gas field will have to deal with the development and production' (2011: 2979). This is exacerbated by the fact that the Barnett play is located close to a major urban centre. This goes some way towards explaining why in Denton, a town bordering the Barnett play, a majority voted to ban fracking inside town and city limits in late 2014. A local resident commented that this 'should send a signal to industry that if the people in Texas – where fracking was invented – can't live with it, nobody can' (in Goldenberg, 2014). It is also likely no surprise that the Texas Oil and Gas Association has responded by requesting an injunction against the ban.

Texas may be known for its regulatory 'poverty', but not all other states follow suit. There are considerable differences in how individual states regulate the industry, and how responsive they are to their communities' contestation of it. The key determinants of a state's response vary considerably, but they generally involve a number of factors. These include '[b]etween-state differences in the economic importance of natural gas production, political traditions, environmental impacts of drilling activities, and local governmental responses to risk reduction' (Davis, 2012: 177). We can also add electoral factors and the organisational and campaigning strength of a state's anti-fracking communities, albeit these factors too are conditioned by the states' political cultures and traditions.

Even in states that welcome the industry, the manner of this welcome and the regulatory infrastructure that oversees it, can differ markedly. For

example, Colorado too boasts a large-scale unconventional gas industry, and its high concentration of coalbed methane has exposed it to the controversy that surrounds fracking in the other states. Davis (2012) highlights some key differences between Texas and Colorado that help explain the relatively tighter regulation that occurs in the latter. These involve Colorado's more diversified economic profile and the strength and political literacy of its environmental community – a literacy shared by the political contestants in our Australian case.

Property ownership issues have also fuelled the opposition to the industry. Colorado too operates within a regime of 'split estate' rights that sees individual landholders owning the surface of the land, while below surface mineral rights are delegated to gas companies who can then exercise extensive control over what occurs on the land. As Davis (2012: 186) reports '[p]olitically, this has placed gas company officials on a collision course with many rural land owners in Colorado' and creates widespread division within the community. In their study of residents' views on fracking in their state, Pierce et al. (2013) find that the state is quite evenly divided between pro-industry and anti-industry constituents. This is against a background of a historically strong pro-business ethos in Colorado. In addition to discord over property rights, Colorado's residents shared the other states' regulatory concerns. While seemingly robust regulations were in place, the reality of poor monitoring and oversight told an altogether different story. Hence, while Colorado's citizens were not opposed to the unconventional gas industry per se, they did question the adequacy of its regulation and mounted significant opposition on this basis. Many wished to see the industry thrive but on considerably different terms (2013: 27). This distinction resonates in gas impacted communities across the country: many support the industry in principle, but not its practice. In short, increasing numbers of communities are questioning whether the industry has a SLO.

Conclusions

There is little doubt that the world is in the midst of a 'golden age' of gas. But nor is there any doubt that this is a prospect not universally embraced. For countries with plentiful reserves, the unconventional gas rush provides lucrative economic opportunities which are welcomed by governments and industry alike. In the United States gas serves an even bigger ambition. The combination of shale gas and oil holds out an iconic promise of energy independence and energy security – ambitions long nurtured in the bosom of many Americans. When tied to cultural norms

of patriotism and nationalism, the energy independence narrative is a powerful one. This is well illustrated in an ethnographic study of landholders in Pennsylvania (Perry, 2012). Here American farmers on whose land the industry was operating felt it their 'patriotic duty' to support it, even against their own personal reservations; this was, after all, the 'great American' industry which will 'save our nation' from 'foreign dependence on oil' (2012: 85). As discussed in Chapter 4, gas mining also makes a major contribution to meeting President Obama's climate goals, particularly as older coal-fired electricity generators are retired in favour of gas-fired ones (EIA, 2014b). It is somewhat paradoxical then that the Obama administration's modernisation effort in the climate domain is sustained by the more contested modernisation credentials of unconventional gas. In Australia, the ambition is a somewhat less grand one, but this should not overlook the central role that resource development plays in driving Australia's own economic desires.

Not all has gone to plan in any case in either of these countries. As we saw, in terms of speed and intensity, the gas rush has been well matched by its fervent opposition. Even countries and communities that had enthusiastically embraced it are confronted with increasing numbers now contesting it. At worst, some countries and communities are demanding outright bans; at best governments are under increasing pressure to better regulate the industry and contain its frenetic pace. To this end, governments and industry alike have been the targets of sophisticated, well organised and sustained oppositional campaigns. As one industry analyst has observed, 'the oil and gas industry has largely failed to appreciate social and political risks, and has repeatedly been caught off guard by the sophistication, speed and influence of anti-fracking activists' (Wood, 2012: 1).

The gas rush has also exposed the gas industry's CSR credentials. It has directly tested the industry's willingness to embrace the social responsibilities they discursively proclaim. In our earlier discussion of social licence we proposed that three important legitimacy themes underpinned its efficacy on social, environmental and political grounds. These themes underpin a company's willingness to engage genuinely, transparently and substantively with the communities its activities affect. These themes pertain, in short, to a company's preparedness to 'walk the talk' of CSR. Contestation of the industry has crystallised around charges that, rather than walking the talk, many companies instead conceal and obfuscate, engage cursorily and disdainfully, and 'collude' and 'conspire' with governments.

Governments too are caught up in the oppositional fray. Both of our country cases highlighted an important dynamic in the

government-business relations of gas mining. As enthusiastic supporters of the industry, governments were often hesitant to impose too rigorous a regulatory regime on mining for fear of deterring it. To allay community concerns, governments also offered a rhetoric of reassurance. Here a political modernisation narrative that promised rigorous environmental standards and robust monitoring regimes, sought to assuage community concerns. The promise of addressing climate change was an additional enticement. But it was often as a result of sustained pressure from these very communities, and the exposure of operational failures that they could not ignore, that governments tightened regulations and improved their monitoring regimes. This was often too little, too late – with governments' political capital and the gas industry's corporate one often irreparably damaged.

The unconventional gas industry's experience with social licence shows that while it can be strategically 'seductive', it can also come at a price. As Black (2012) points out, the 'concept promises that companies can win community acceptance or approval, minimise risk and obtain access to resources such as land or a good reputation. All they need to do is act like good corporate citizens'. While this may sound 'easy', this is far from the case. The rhetoric of CSR and SLO may indeed offer, on the face of it, effective risk management strategies. But too large a gap between its rhetoric and practice can expose CSR as greenwash, which can then significantly undermine industry standing and aggravate already fractious stakeholder relationships. Understood this way, while the SLO 'emerged as an industry response to opposition and a mechanism to ensure the viability of the sector', it can be wielded against the very industry that established it (Owen and Kemp, 2013: 29). In short, while corporations may wield it as a tool for managing dissent, communities use it as a tool for mounting it.

Genuinely applied, however, social licence offers considerable potential for both the reputational renaissance of the mining industry and the efficacy of CSR as a whole. Much of its potential lies in its capacity to restore trust in an industry that has lost a good deal of it. Bebbington (2014: 34) considers that this potential can go even further; that contemporary mining companies are in a position to 'help lead other elites on a march towards different and far more progressive ways of combining development, democracy and sustainability'. While a somewhat ambitious goal, it nonetheless highlights a social licence's capacity to help shift CSR from a 'soft' to 'harder' form.

6
Renewable Energy Transitions: Powering the Future?

Introduction

Energy is the cornerstone of modern industrial societies, literally driving development. But energy use, particularly from fossil fuels, also drives the climate problem. As we discussed in Chapter 4, a restructuring of the energy landscape, and a rethinking of the role that emissions-intensive fuels play in the contemporary energy mix are critical to addressing climate change. Commitments by business to the restructuring effort are central to the achievement of this task. This is easier said than done, of course, even in the face of the increasing potential of renewable energy to assist this task – a potential tailor-made for ecological modernisation's (EM) ambitions. Much is invested in current energy arrangements, for both producers and consumers, and change could come with considerable disruption and cost to both. It is for this reason that much of the energy debate centres on the maintenance of energy's 'holy grail': the provision of secure, stable and affordable energy.

Fierce political debates are generated around this 'holy grail', with the promotion or resistance to energy restructuring usually articulated in these terms. Most countries that respond to the energy challenge – particularly by rethinking their reliance on fossil fuels and creating a larger space for renewables – are confronted with the difficult imperatives of cost containment, job creation and securitisation of supply. At the same time, the modernisation of the energy mix provides significant and profitable investment opportunities, with business playing an important role as both a producer and consumer of energy. Renewable energy developments hence go to the heart of both EM and corporate social responsibility (CSR). Transforming the energy landscape requires effective partnerships between government and business with each

playing a decisive part: governments in establishing the critical policy infrastructure, and business in embracing the innovation challenge. Climate change is today front and centre of the corporate sector's social responsibility goals, with commitments to energy efficiency and alternative energy key to meeting these goals.

The renewable energy momentum is well underway worldwide. Countries such as Denmark, Spain, China and a number of American states have made some of the largest strides. By 2011, for example, Denmark had succeeded in generating 26 per cent of its electricity from wind; Spain boasted the largest concentrated solar thermal generating capacity in the world; and China, aside from having the world's largest wind power capacity, was also the largest manufacturer of solar photovoltaics (PV) and solar hot water (Turner et al., 2013: 288). Getting the renewable energy policy settings right is nonetheless notoriously difficult, particularly since it requires medium- to longer-term policy commitments by governments who usually govern for the short term.

This chapter focuses on renewable electricity generation. After exploring the global energy landscape, it examines the considerably different experiences of renewable energy in Germany and Australia – experiences that highlight the difficult modernisation politics of energy transitions. Germany has initiated a highly progressive energy transition that is underpinned by the principles of EM and has the support of its political elite. By contrast, after a promising start, Australia's renewable energy aspirations are currently under significant pressure due to a political elite determined to halt the modernisation momentum rather than advance it. Policy stability is critical to this momentum. Australia's experience highlights the 'push-pull' policy dynamic that can significantly undermine or undo this momentum, even in smaller scale energy transitions. These cases demonstrate well – Germany in its presence and Australia in its absence – the criticality of a modernising political sector to establishing a stable policy infrastructure for environmental reform.

The global energy profile

According to the International Energy Agency's 'World Energy Outlook 2014' (IEA, 2014a), the current energy system is under stress, and in danger of falling significantly short of expectations and requirements. Geo-political turmoil, including the recent oil price drop with its myriad flow-on effects, problematises the energy outlook; so too does the overriding issue of a warming planet and the energy restructuring required to contain it. Technological advances have improved energy efficiency

in a range of areas, but global energy demand is still expected to grow by up to 40 per cent by 2040. Roughly equal proportions of oil, gas, coal and low carbon sources are expected to meet this increased demand. We discussed gas' own rapid rise, particularly from unconventional sources, in Chapter 5. Gas is expected to become the leading fuel in the OECD (Organisation for Economic Co-operation and Development) energy mix by 2013 (2014a: 2). Gas is still a fossil fuel, however, which produces significant emissions when burned for electricity generation, even if these are, by some measures, lower than coal. Fossil fuel proponents champion gas as a transitional fuel until alternative energy sources, or preferably emission 'cleansing' technologies, are more strongly bedded down.

Coal remains the main base load electricity generation fuel for many countries across the globe, with its usage likely to increase in the short to medium term. Its future is nonetheless constrained by the requirement to reduce emissions sooner rather than later. But replacing coal's contribution to the energy mix is the most challenging of tasks. Fossil fuels have been the motor of industrial development since the industrial revolution. Along the way, the fossil fuel sector has won itself a central place at the decision-making table of most countries, but particularly so in resource-intensive economies. The centrality of fossil fuels to a country's energy profile helps explain the considerable government support the industry receives.

Renewables may not match the stature of fossil fuels but their rise is impressive. Wind remains the main contributor to renewable electricity generation, followed by hydropower and solar power technologies. The IEA (2014b: 3) reports that in 2013 renewable energy provided almost 22 per cent of total global power generation, roughly the equivalent of that provided by natural gas, but half the size of the coal contribution. Globally, renewables are expected to contribute almost half of the increase in electricity generation to 2040 (2014a: 4). In 2013, some of the standout examples included: Denmark, which drew 30 per cent of its electricity from renewable sources, and expects to increase this to 100 per cent by 2035; Germany, which currently draws 21 per cent, rising to 80 per cent by 2050; and Scotland, which expects its extensive hydro power to provide 100 per cent of its electricity by 2050 (Diesendorf, 2014). The contribution of renewables to heat generation is considerably smaller, with fossil fuels meeting approximately 75 per cent of this demand (IEA, 2014b: 4). While the heat generation market is growing, its policy support is not as strong as in the renewable power generation and transport sectors. Two key trends should assist the overall growth of

renewable energy: first, scale is expanding significantly, with deployment of renewable electricity rapidly increasing geographically; and second, as renewable energy costs come down they are expected to become cost competitive with conventional energy sources (2014b: 5).

Nuclear power has, by contrast, suffered a number of recent setbacks, particularly since the nuclear disaster in Fukushima, Japan in 2011. It is nonetheless expected to retain a significant role in electricity generation in many countries into the medium term. One of nuclear energy's clear advantages in a climate change age is that it is emissions-free. On the downside, however, the potentially catastrophic consequences of technical failure, so starkly evidenced at Fukushima, renders it a deeply problematic technology that faces widespread community opposition. Despite this, or perhaps because of it, the share of electricity generation provided by nuclear power to 2040 is expected to stabilise at 12 per cent, after peaking two decades ago (IEA, 2014a: 50). Plans to phase nuclear power out altogether are not confined to countries such as Germany. Almost half of the over 400 nuclear power generators currently in operation are expected to be retired between now and 2040, most of them in Europe, the United States, Russia and Japan (2014a: 5). If the world takes seriously the threat of climate change, this shortfall will need to be met by cleaner alternative fuels. But with energy demand expected to increase substantially in the medium term, this will prove a significant challenge indeed.

With the right market conditions and the right policy support, renewable energy is poised to meet this challenge. The renewables industry is currently buoyant in many OECD countries, as we just saw. But it is also increasingly buoyant in non-OECD countries. In the latter, countries such as China are expected to draw a significant proportion of their power generation from renewables, with China becoming a major renewables industry player in its own right. India too is investing heavily in renewables, with the Indian energy minister recently claiming that India will become a 'renewables superpower' even as, in the shorter term, its reliance on coal is expected to grow substantially (Carrington, 2014). India and China are representative of the significant energy hunger of rapidly developing countries, and of the likelihood that it will be largely fossil fuels that meets these needs in the medium term.

In the OECD sector, the renewables push is driven by a complex set of factors, including emissions reduction and energy security goals. While deployment is well underway in Europe and parts of the United States, increased deployment requires addressing a number of difficult challenges. The IEA states that they include

> the rapid clarification of policy uncertainties in some markets; the implementation of stable and sustainable policy frameworks that give greater certainty about the long-term revenue streams of renewable projects; greater measures to ensure the grid and system integration of variable renewables; the implementation of fair rules and appropriate electricity rate design for allocating the costs and benefits from fast-growing distributed solar PV; improved reductions in non-economic barriers; and faster-than-expected decreases in renewable technology and generation costs. (IEA, 2014b: 7)

Effective policy development that creates investor confidence and market stability, and that avoids the 'boom-bust' or 'push-pull' scenarios that can cripple the renewables industry, are central to meeting these challenges. Our discussion of the renewable energy trajectory in both Germany and Australia highlights the criticality of these modernised policy settings to the renewables enterprise: the positive impact of stability in the former, and the damaging impacts of instability in the latter.

Germany

Germany is the world's fourth-largest economy; the largest economy in Europe; and, with its sizeable manufacturing sector, one of the world's most industrialised economies. Germany's manufacturing sector also hosts a substantial industry in renewable energy technologies, particularly wind and solar. As in the United States, an innovation and entrepreneurial culture has driven many of its advantages in the technology and manufacturing sectors. Some of Germany's main industries include automobiles, machinery and electrical equipment, as well as a plethora of diverse niche-sized manufacturing businesses. As we saw, the German economy is largely made up of these small to medium enterprises, which are often identified as the motor of its entrepreneurialism. But Germany also boasts considerable coal reserves, particularly lignite, or brown coal. Lignite is a lower grade coal and when burned for power generation emits significantly more carbon pollution than black coal. Germany currently derives almost half of its domestic electricity generation from these sources, with the share of coal-fired power generation at its highest level since 2007 (see Mengewein and Morison, 2014). Paradoxically, as renewables gain an increased foothold in the German electricity market, the reliance on coal-fired generation has also increased – due to a variety of complex factors we discuss below.

Such a large economy is necessarily a large user of energy. Nuclear power has made a significant contribution to Germany's energy mix for a number of decades, but as opposition to it grew – peaking after the Fukushima nuclear disaster – Germany began planning to replace nuclear with an altogether ambitious alternative: large-scale deployment of renewable energy. A very successful anti-nuclear movement, which garnered extensive support across the country, ensured that nuclear power would always have a chequered future. Germany had planned to phase out nuclear power by 2021, a decision the Merkel government sought to postpone and review in 2010. However, the nuclear disaster in Japan in 2011 prompted another rethink. Instead of postponement Germany now decided to accelerate the retirement of nuclear plants. Into the breach stepped one of the world's most ambitious energy transitions – the *Energiewende* or Energy Transition Project, which seeks to power Germany's large economy and society with 80 per cent renewables by 2050. As one commentator observed, the broader 'historical context of the *Energiewende* was that nuclear power was seen as the greatest threat: if one was now starting the process reducing coal consumption and carbon emissions would have been a higher priority, but always reducing both was considered important' (Priestley, 2014). Hence, from the outset, Germany's energy transition sought to achieve two goals in tandem: the phasing out of dangerous nuclear power and the addressing of dangerous climate change.

We discussed Germany's corporatist framework in Chapter 2 and its relationship with CSR in Chapter 3. We observed that tripartite arrangements between government, business and unions lay the foundations for Germany's social market economy, which counts social prosperity as central to its economic success. This in turn underpins the collaborative character of its entrepreneurial culture. We also noted that Germany has had a long-standing, largely bi-partisan, commitment to environmental protection which helped drive its investment in environmental technologies and its EM. These factors helped shape Germany's unique style of CSR. The norms of a social market economy, and the social responsibilities that underpin it, extend to the practices of corporate business, including the management of labour relations and responsibility for societal and environmental harmony. To this degree, Germany's CSR model mimics the norms of the social market economy, and helps explain the conceptual link between CSR, corporate citizenship and sustainable development in Germany (Habisch and Wegner, 2005: 113). In Germany 'CSR is difficult to separate from sustainability and Corporate Citizenship' since many 'pure' CSR practices are already

national requirements and are also 'embedded in or triggered by EU measures' (2005: 113). But Germany's unique experience with environmentalism is also an important factor in explaining its EM and, in particular, its turn to renewable energy.

Environmentalism and EM in Germany

Germany's landlocked geography, its highly industrialised economy, its dense transport networks and the increasing visibility of environmental problems prompted a strong environmental movement response from the outset. But corporatist arrangements, while inclusive of formal groups, can exclude other civil society actors, especially smaller or less formally constituted interest groups, including environmentalists (Habisch and Wegner, 2005). Some of the reasons for this go to the cultural and normative underpinnings of German corporatism. A strict legal corporatism seeks to moderate disharmony and create national cohesion: '[s]tate and society are seen as an organic whole' where 'conflict among competing interests … is unrecognised and opposition seen … as obstruction' to cohering national goals (Dryzek et al., 2002: 671). Hence, while corporatism 'legitimates the idea that societal interests ought to participate in formulating and implementing public policy, and it awards substantial influence and decision-making power to some groups' it can at the same time be conservative and elitist, filtering in more professional and scientific actors through peak interest organisations and filtering out smaller civil society interests or those carrying more radical demands (Dryzek et al., 2003: 40).

German social movements have nonetheless featured strongly in the country's social and political history. The German anti-nuclear movement has been particularly successful in generating widespread opposition to nuclear power. This opposition grew significantly after the Chernobyl nuclear disaster in the Ukraine in 1986. But the anti-nuclear movement had been active in Germany from the 1960s onwards, with the modern environmental movement closely aligned with associated anti-nuclear and peace movements. While well organised and widely supported, the early anti-nuclear movement was largely ignored by governments and elicited little formal political support. It hence became a rallying point not only against nuclear power but also as a beacon for a more responsive democratic Germany. As Dryzek et al. (2003: 37) highlight:

> The political exclusion of the anti-nuclear movement helped fashion a strong oppositional counter-culture which went beyond specific policy goals to include issues of identity and alternative forms of action and behaviour.

These excluded interests were hence pressed to foster more direct social change strategies. One way they responded is through the formation of the German Greens party. The rise of the German Greens can be traced to this political exclusion, as can the values of enhanced participation, inclusion and equity that the German Greens would go on to adopt. While green actors did not abandon their extra-parliamentary social change strategies, their political exclusion prompted some among them to adopt the more formal route provided by the formation of a political party. The German Greens achieved political success relatively quickly, winning their first seats in parliament in 1979. Their success was not won without considerable internal conflict, however. As noted in Chapter 1, their presence during the 1980s was defined by the strong factional division between the 'realos' (the pragmatists) and the 'fundis' (the idealist fundamentalists), with the more mainstream pragmatist wing prevailing over time. Supported by a favourable electoral system, the party soon established a strong national profile, going on, at times, to share political power through coalitional arrangements, usually with the Social Democrats. Together with the Greens Party, German green movement actors played important roles in influencing the German state to assume leadership in the climate and clean energy domain, culminating in the plan by the then Social Democratic and German Greens coalition government to phase out nuclear power in the late 1990s.

Toke (2011a, 2011b) has explored another important way by which social movements influence Germany's policy trajectory. He points out that social movements and smaller citizens' groups have played a larger role than they are usually credited in the fostering of EM-oriented environmental policies. While Denmark led the original push towards wind energy, he notes that the significant growth of the wind industry in Germany in the 1980s was largely due to pressure from anti-nuclear activists, some of whom had begun investing in renewables. This 'grassroots pressure from independent renewable generators' prompted enough parliamentary members to support feed-in-tariff (FIT) legislation, even against the ensuing backlash by conventional generators (2011a: 71–2). The eventual support of sections of the trade union sector, together with growing support from a coalition of farmers, renewable energy businesses, renewable trade associations and environmentalists guarded the newly established feed-in law from political and corporate attempts to rescind or diminish it (2011a: 72). The absence of such direct social movement and civil society support would likely have led to a very different renewables industry outcome in Germany. Toke concludes that, with the 'dominant energy incumbents, the utilities … initially

unwilling or unable to develop the technologies', it fell to social movements to generate the critical impetus for renewable energy in Germany (2011a: 73).

The structure of Germany's energy system further bolsters the strong community support for renewables. Buchan (2012: 9) observes that the 'hallmark' of this system is 'the growing decentralisation of ownership and operation' and the 'growing activism of municipal energy companies and citizens energy cooperatives' which in turn bolsters its political influence. This means that renewable energy businesses are able to generate strong community support for their projects. Indeed, 'Germany is probably one of the very few European states where the renewable lobby could bring thousands of people out on to the streets' (2012: 15).

The increasing community calls for Germany's ecological renovation saw EM come into its own in Germany from the 1980s onwards. Apart from offering a strategy for achieving environmental protection while promoting economic growth, German EM also offered a way to both moderate and accommodate the more radical demands of some sections of civil society and those of the early German Greens Party. As an approach that accommodated continued development, albeit greened, EM was also an approach that a state committed to innovation and entrepreneurship felt it could participate in – indeed, even lead. As Dryzek et al. (2002: 672) put it, at issue was the 'ecological transformation of industrial society' not its abolition; turning 'the [environment] movement's earlier battle with industry' into a '"critical dialogue" rooted in ecological modernisation discourse'. Issues such as pollution and innovative ways of containing it thus came 'to be viewed by many as contributing to economic growth rather than inhibiting it' (Sbragia, 1996: 241).

Germany's current renewable energy 'revolution' derives directly from this history. The turn to renewables represents the compromise that emerged between Germany's bold anti-nuclear resistance and the state, and the anchoring of this compromise in an EM logic that built on the very qualities that the German state held dear: its spirit of innovation and entrepreneurship in pursuit of a social market economy.

Germany's Energy Transition Plan: The *Energiewende*

Germany has actively embraced the renewable energy challenge, launching its ambitious *Energiewende* – or Energy Transition Plan – in 2010. But the renewable energy turn was already well underway in

Germany before this official launch, underpinned by pioneering policy frameworks that included the 1990 FIT scheme which guarantees a minimum price for electricity from renewable sources; the *Renewable Energy Sources Act* of 2000, which, among other features, gave priority to renewable energy feeds into the power grid; and the Integrated Energy and Climate Programme of 2007 which combined Germany's climate mitigation and renewable energy goals. The energy plan was also given extensive research and development support.

The broader policy context of the *Energiewende* is Germany's commitment to reducing greenhouse gas emissions by 40 per cent on 1990 levels by 2020, 55 per cent by 2030, 70 per cent by 2040 and 80–95 per cent by 2050 (IEA, 2013: 9–10). The *Energiewende* consolidated and formalised its bi-partisan ambition to shift the large German economy away from its reliance on nuclear and fossil fuels to renewable energy in an effort to create a more sustainable energy future and contain climate change. To this end, Germany has committed to phasing out subsidies for hard (bituminous) coal power generation and to decommission hard coal plants by 2018. This goal has recently come under pressure with the planned construction of several new coal-fired power plants in part to compensate for the speedier decommissioning of its existing nuclear power plants. Built on the twin goals of energy efficiency and renewable energy technologies, electricity generation sits at the core of the *Energiewende*. In a recent speech at the Fifth Petersberg Climate Dialogue, Berlin in July 2014, the German chancellor reinforced the ambitious goals of the *Energiewende,* even against the proposed review of the *Renewable Energy Sources Act* prompted by significant price hikes in electricity:

> The two pillars of the Energiewende in Germany – renewables on the one hand and energy efficiency on the other – both simultaneously underpin our overall climate goals. Germany wants to cut greenhouse gas emissions by 40 percent by 2020, compared to 1990 levels. There is still a great deal to be done to achieve this. ... with good conditions, new wind and solar power stations are hardly any more expensive nowadays than new coal, gas or even nuclear power stations ... [But] investment in the use of renewables can scarcely be financed on the free market alone. So we will be dependent on incentives for quite a while yet. (Federal Government Germany, 2014)

The scale of the energy transition is unprecedented. It seeks to decouple carbon emissions from economic development by powering the world's

fourth-largest, highly industrialised, economy with 80 per cent renewable electricity by 2050. The renewable energy contribution to electricity generation currently sits at 28 per cent (Hendricks, 2014). It adds ambitious primary energy consumption reduction targets to this: a reduction in energy consumption of 20 per cent below 2008 levels by 2020, scaling up to a 50 per cent reduction by 2050 (Buchan, 2012: 2). There are several incremental steps to achieving this: a 35 per cent renewables contribution to electricity generation by 2020, 50 per cent by 2030, 65 per cent by 2040, and, finally, 80 per cent by 2050 (Stegen and Seel, 2013: 1483). This represents a clear EM goal, one whose faith in technological innovation is matched by the political commitment necessary for its realisation. This ambition became significantly more challenging with Germany's decision to expedite its shift away from nuclear. As we discuss below, this had the effect of undercutting its reliance on nuclear as a bridging fuel and fostering a problematic turn to new coal and gas-fired power plants to make up the transitional shortfall.

That such an ambitious energy transition plan should emerge in Germany is in part no surprise. Germany, as we saw, has long committed to an innovation-centred EM approach, and began on this journey over two decades ago (Hillebrand, 2013; Jänicke, 2010). It has thus long been a 'forerunner' in both developing and utilising renewable energy technologies (Sühlsen and Hisschemöller, 2014: 316). In a speech at the United Nations Climate Summit in New York in 2014, the German Federal environment minister again outlined the scale of the EM ambition and Germany's long-standing commitment to addressing the climate challenge:

> In light of the challenges of climate change we need nothing less than a paradigm shift towards a low carbon and energy-efficient economy. Our experiences in Germany show that decoupling resource consumption from economic growth is possible – and gives rise to many positive effects. ... The higher level of energy security, effective climate mitigation and an economically viable energy supply with significant investment and job opportunities are the key arguments for Germany to remain a frontrunner for renewable energy worldwide. (Hendricks, 2014)

For Germany green technological innovation represents a plethora of opportunities to accelerate its economic growth goals while attending to its social and environmental responsibilities – the heart of EM's co-benefits ethos. The renewable energy industry is also a large employer, with

almost 380,000 jobs created in the industry in 2012 alone; and the skills profile of a large proportion of this new labour force is a highly trained and well-educated one (Pegels and Lütkenhorst, 2014: 529). Wind is the main success story in the German renewable energy plan, followed by biomass, solar PV and hydro power (Sühlsen and Hisschemöller, 2014: 316; see also Hillebrand, 2013; Pegels and Lütkenhorst, 2014).

Germany is in many ways a showcase of EM. Its innovative FIT scheme for renewable electricity, established over two decades ago, has now been exported to and replicated in many other countries across the globe. FITs require electricity utilities to pay specified prices for different forms of renewable power fed back into the grid. These policies are considered instrumental to the rapid growth of the renewable energy industry, and it is under their ambit that Germany, Denmark and Spain 'trail-blazed' the early development of wind power (Toke, 2011a: 71). Over two-thirds of European Union (EU) countries now use FITs (Sühlsen and Hisschemöller, 2014: 316). The policy landscape created by FITs and a range of associated schemes has led to both a reduction in emissions as well as a thriving environmental industry (Hillebrand, 2013: 668; Stegen and Seel, 2013).

Political leadership and an effective network of actors in the political realm were central to Germany's EM ambitions. These factors led to the creation of a policy regime that supported investment in technological innovations over sustained periods of time, backed by research and development (Jänicke, 2010). As a highly industrialised and export-oriented economy, innovation was critical to German competitiveness. Aside from direct environmental benefits, energy efficiency and technological innovation in the renewable energy realm also represented cost savings and gave Germany a competitive edge in a crowded market. Effective sets of policies in a range of related areas helped consolidate the modernisation turn. This also helps explain why, from the outset, Germany pushed strongly for robust climate policies among its European neighbours; complementary markets insured it against any competitive disadvantage (Sbragia, 1996). At the same time, as Hillebrand (2013: 668) points out, the 'new eco-industry was accompanied by the emergence of business associations that [lobbied] for strict environmental regulation, thus counterbalancing the modernisation losers' [i.e., conventional fossil fuel and emissions-intensive industries] anti-regulation influence'. These associations too wished to ensure stable markets for their investments. But the application of EM logics, and associated policy regimes, is not an exact science, and can be buffeted by a range of problems and challenges. Some of these are unforeseen, and some are of one's own making – as the *Energiewende*'s recent experiences well illustrate.

The challenges of the Energiewende

If there is no denying the scale and vision of the *Energiewende*, there is also no denying the significant costs it generates, many of which can fall on consumers and smaller businesses alike through the structure of the *Renewable Energy Act* and the FITs scheme. There is also no surprise in this, since such a transformational energy plan was always expected to be costly. The challenge has been about how best to manage these costs fairly and sustainably in the short to medium term. These costs have increased significantly over the past few years due to a number of factors which include decreasing electricity demand and the fixed rate of FIT payments (see IEA, 2013; Hillebrand, 2013; Sühlsen and Hisschemöller, 2014; Pegels and Lütkenhorst, 2014). The decision to accelerate the closure of nuclear power plants, without significant complementary adjustments to the *Energiewende* policy regime, has added to these pressures and had a number of 'perverse' outcomes, such as the construction of new coal-fired power plants as we discuss below. Further changes, beyond the speeding up of grid expansion and market integration measures, are currently under review. Nonetheless, Buchan argues,

> it is also important for Europe that Germany gets its *Energiewende* right. The country is a large microcosm of the European Union, and all the issues tackled in the *Energiewende* are those that its EU partners will, sooner or later, have to tackle. (2012: 5)

The *Energiewende* is caught up in the difficult challenge of having to balance longer-term investor certainty and stability (hence avoiding any significant policy changes) against shorter-term pressures of rapidly increasing electricity costs for consumers and businesses. As IEA (2013: 12) observes,

> German energy policy goals are long term and in order to realise their targets, a predictable political and regulatory framework is necessary. Sudden changes to the support regime while reducing costs in the short term can undermine investor confidence and will drive up costs over the long term as a result of higher risk premiums…. send[ing] the wrong signals to the market.

It is thus no surprise that there is fierce debate among the German citizenry today about the costs of the *Energiewende*. While there is widespread support for the energy plan (see Maatsch, 2014), households are increasingly feeling that they are carrying a disproportionate burden

through onerous electricity price increases. Energy-intensive industries, for example, are eligible for a reduced surcharge if their electricity costs meet a certain threshold, and large consumers of electricity can be eligible for network charge exemptions; this leads to a 'distortion' of 'electricity prices and trade and imposes an unnecessary burden on small consumers' (IEA, 2013: 12). At the time of writing, the German government is revising the *Renewable Energy Sources Act* with a view to redressing some of these issues (see Hendricks, 2014). It is clearly important to address any distortions created by current policy settings. At the same time, this will need to be done very carefully to avoid undermining the investment certainty that underpins Germany's renewable energy policy.

This is the risk that Stegen and Seel (2013: 1487) refer to as the 'push-pullback approach'. Too quick a transition 'push' without careful management of market conditions can lead to significant rises in electricity prices, as appears to be occurring now. Too rapid a 'pullback', however, can deflate investor confidence and threaten the industry's future. A robust 'price architecture' for renewable energy technologies is hence critical; but 'under the current market design, a significant buildout of renewable energies creates longer term disincentives to investment in conventional energy plants and causes, in the short term, significant price increases for end consumers' (2013: 1487). Getting this right is difficult; but the impacts of getting it wrong are even more significant. Too steep a rise in electricity prices also acts to disenchant German citizens, steering them away from the generally strong support that the energy transition plan enjoys among them. The impact on employment can also be substantial, with, as we saw, the renewable energy sector a strong employer, and a strong contributor to Germany's robust manufacturing sector.

Several elements of the FITs regime have, so far, contributed to its investment stability: its guaranteed long contract period of 20 years, with subsidies expected to be phased over time; guaranteed electricity grid priority for renewables; variable technology-specific tariff levels; and flexible tariff ceilings that allow for diverse deployment trends (see Pegels and Lütkenhorst, 2014; Buchan, 2012). This stability has, however, created unwelcome spill-over effects. Although the policy was designed with a view to accommodating a range of different renewable energy technologies, it has instead helped create a bubble in the German solar PV sector. The degree to which this benefits the German economy is hotly contested. A contentious but not uncommon view is that 'German households have, through the renewable energy subsidies

they pay, made the world a gift of solar technology which China has now been happy to exploit' (Buchan, 2012: 4). The adjustment of the FIT regime in response to changing circumstances, such as the solar PV bubble, can also be difficult. With FIT tariffs underpinned by contract law, the risk of litigation by contracted companies tends to restrict the changes that governments can make (2012: 13).

Investment in grid renovation is also critical to the effective operation of the *Energiewende*. Transmission infrastructure and distribution is currently not optimal: indeed, 'Germany's record with regard to the construction of new grid infrastructure is patchy and planning and consenting procedures present a major stumbling block' (IEA, 2013: 14). The focus over the past decade or so has necessarily been on significantly increasing the renewable energy contribution. However, it is considered that a commensurate focus on grid extension, electricity storage capacity and improved energy efficiency in both power transmission and distribution is now required (2013: 14). There are signs that important work is occurring in some of these areas, particularly measures designed to speed the expansion of the electricity grid, which Germany's successful wind energy sector has identified as 'the most serious problem confronting a renewable energy buildout' (Stegen and Seel, 2013: 1488).

The cooperation of corporate business is also critical to Germany's energy transition. This includes not just renewables industries that are clearly involved in the transition enterprise, but also the conventional utilities. Both of these groupings lobby government regarding overall policy design and specific FIT rates. Despite the turn to renewables the main conventional power utilities continue to exert considerable influence in the energy regime, and have enjoyed their own extensive subsidies, even as these are planned to be phased out by 2018 (Sühlsen and Hisschemöller, 2014: 323). The scale of the energy transition, and the very fact of energy as a key driver of the modern industrial economy, means that a significant portion of the business sector is necessarily engaged in the enterprise: 'many capitalists and state elites, for a range of different reasons, now have a political and financial stake in the project of decarbonisation' (Newell and Paterson, 2011: 23). This stake, however, can be perceived as working for or against them; the fossil fuel sector is clearly under pressure and likely to resist when it can.

Managing the business politics of the energy transition is critical to its success and demands highly honed political skills. With renewable industries clearly on side, governments are required to also turn their attention to convincing – often through sets of appropriate policy tools – conventional energy sectors to consider the clean energies of

the future. Political narratives and skills sets that emphasise the energy security, global competitiveness and jobs growth elements of the energy transition are important motivators of change (Schmitz et al., 2013: 20). Resistance, of course, is widespread and not simply confined to 'traditional' fossil fuel industries:

> In some countries resistance comes also from civil society protesting against infrastructure projects or windfarms in particular neighbourhoods ... and it comes from parts of government that regard as incompatible achieving both financial sustainability ... and environmental sustainability. Rent management for renewables is an intensely contested political process. (Schmitz et al., 2013: 20)

Overall, there is no denying the scale and unprecedented spirit of Germany's energy transition, and of the EM frame within which it comfortably sits. There is also no denying the paradox of the *Energiewende*'s current state of play. The country renowned for its commitment to a renewable energy revolution is currently building more new coal-fired power plants; some even using lignite, which is renowned as a more polluting coal variant. The *Energiewende* is undoubtedly working imperfectly in achieving its ambitious energy transformation goals. Importantly, however, it is working. While in most countries the renewable energy sector remains a niche, in Germany it is proving a weighty competitor to its conventional energy rivals (Sühlsen and Hisschemöller, 2014: 323). Too strong a focus on the problems and challenges the energy transition is encountering can distract from this fact. This does not mean that these challenges are not significant and that the cost burden on consumers is not deeply concerning. But, as one observer puts it, one 'should not be pedantic ... Even partial transformation of such a big industrial economy to a lower carbon system would be remarkable' (Buchan, 2012: 33).

In Australia, it is currently an entirely different story. After a promising start by former governments in launching the renewables sector, the sector's growth and viability is now under increasing threat. This demonstrates that the 'push-pull' dynamic applies not only to the renewable sector but also to political modernisation as a whole.

Australia

In 2014, investment in renewable energy technologies in Australia plummeted by over 80 per cent to the lowest it had been since 2002.

This steep decline in investor confidence in an industry which had been experiencing significant growth puts the renewable energy industry in Australia at risk of collapse. This turn of events was precipitated by proposed changes to renewable energy policy by an Australian Federal Government seemingly set on diminishing the renewables momentum. As a result, Australia has declined from 11th to 39th place in the global investment rankings for renewable energy in 2014 and is currently behind poorer nations such as Sri Lanka and Myanmar (Hannam, 2015a). This is at a time when, as we saw, investment in renewable energy technologies worldwide has increased to record levels, even in countries that do not have the renewable resource advantages of plentiful sun, wind and waves that Australia enjoys. Australian renewable energy investors are instead investing in global projects elsewhere, including Europe and the United States (2015b). Even without finalising its proposed policy changes, uncertainty about future renewables policy has already created enough investor unease to significantly stymie the industry's growth.

Explaining this from a modernisation perspective will form the basis of the following discussion. The Australian renewables story is an interesting one in its own right but is particularly so in the context of the themes interrogated in this book, especially in two main ways. First, it stresses the criticality of political leadership to the modernisation enterprise as a whole – both in its presence and in its absence. Second, it highlights the political dynamics and power relations of energy in an emissions-intensive resource economy such as Australia. Yet, if climate change is to be halted, it is precisely in emissions-intensive economies such as Australia that significant changes to the energy mix need to occur.

The Australian case also reveals the unwinding of its own EM momentum, felled not so much by a resistant conventional energy sector – although this is an important part of the story – but also by a new government determined to rescind even the tentative modernisation steps that had preceded it. We have already discussed in Chapter 4 the broader political context and background to the new Abbott Federal Government's more circumspect approach to environmental policy. We observed its determination to rebalance the environment-development relationship in the belief that the odds had tipped too far in the environment's favour. It considers the renewable energy momentum in Australia as illustrative of this environmental 'bias'. The increasing contribution that renewable energy made to electricity generation was considered concerning since it potentially diminished coal's input – and, by implication, the fundamentals of Australia's resource economy.

The government could stymie this momentum by altering the terms of the Renewable Energy Target (RET). To this end it ordered a new review into the RET's operation, despite the most recent occurring two years earlier, and despite the fact that not all shared the government's desire to diminish the role of renewables in the Australian economy. Renewable energy is popular among the Australian public, with a poll in late 2014 finding that a strong majority of Australians supported the retention of the RET's current form (Taylor, 2014b). This has not deterred the government's determination to restrain the renewables momentum in Australia.

The renewables enterprise in Australia

Australia is endowed with abundant mineral resources. Its fossil fuel assets in particular have underpinned its economic success for well over a century. Relatively inexpensive electricity for both business and domestic consumption has long been one of Australia's comparative advantages. Coal, as we saw in a previous chapter, is also a substantial export. On the domestic front coal provided 64 per cent of electricity generation in Australia in 2013, which is down somewhat over the past decade, having yielded some space to gas and to a lesser degree renewables; altogether, however, over 87 per cent of electricity generation in Australia was from fossil fuels (IEA, 2014b: 16).

Although paling against the scale of the conventional sector, Australia also has abundant renewable energy resources – or, at least, the potential for abundance. Paradoxically, some of the features that make Australia vulnerable to climate change – such as its hot, sunny and windy conditions – are also those that provide it with significant renewables potential. In 2013 hydro-generation supplied 7 per cent of electricity generation in Australia, with a combination of wind, solar and bio-energy providing a further 6 per cent. While still small scale, this nonetheless represents a significant increase in a relatively short period. As it is in many other countries, wind is presently the success story in Australian renewables, accounting for over 50 per cent of renewable electricity generation in 2013. Solar PV, assisted by state-based FITs schemes (albeit many now rescinded or substantially scaled back), has also seen significant growth over the past few years.

Australia's considerable geothermal resources, its potential for solar thermal and its yet largely untapped wave and tidal energies provide it with significant opportunities in a burgeoning renewables industry worldwide. These Australian renewables scenarios have prompted

several recent studies to arrive at promising conclusions (see AAS, 2010; Seligman, 2010; Beyond Zero Emissions, 2010; Turner et al., 2013). One such study concludes that

> Whether we use pumped hydro, molten salt or hydrogen storage and which mix of wind, solar, wave and geothermal power we use, the conclusion is the same. Given the will, we could supply all our energy needs in a sustainable and mostly renewable way. We could do this at a price we could afford. Possibly the best solution will be a combination of these approaches. (Seligman, 2010: 107)

But, as elsewhere across the globe, there are considerable obstacles to meeting such potential. As Turner et al. (2013: 299) caution, these challenges

> are not only of a technical or engineering nature, but also involve socio-economic factors such as changes in labour force structure and financial imposts of stranded assets. This makes it clear that significant policy responses will be required to encourage and manage the desired transition of a [renewable energy] scenario.

It is to these policy responses we now turn.

The policy landscape

The Mandatory Renewable Energy Target (RET) is Australia's main renewable energy policy tool. It was introduced in 2001 by the former conservative Howard government through the conduit of two main acts – the *Renewable Energy (Electricity) Act* 2000 and the Renewable Energy (Electricity) Regulations 2001. Its main goal was to encourage additional investment in renewable energy technologies in an effort to diversify the energy mix and contribute to the reduction of emissions from the electricity sector. The RET works much the same way that similar policies work worldwide. The target seeks to increase demand for renewable energy generation by obliging electricity retailers to purchase some of their electricity from renewable sources. In Australia this would be undertaken through the purchase of renewable energy certificates (REC). The number of these certificates would be gradually increased until the set target of renewable energy in the electricity network is reached. The RET began in 2001 with a relatively modest goal of deriving 2 per cent of its electricity from renewable energy sources, which it met

quickly. This was increased by the Rudd Labor government in 2009 to a 20 per cent target by 2020.

An expanded RET was part of the Rudd government's suite of climate policies – the most central of which was the pricing of carbon pollution through its proposed emissions trading scheme (ETS). The Rudd government's RET introduced other significant changes, but particularly what was called the Solar Credits Multiplier. While small-scale solar PV already had access arrangements to renewable energy certificates, the Multiplier now allowed installers of these small-scale residential units to accrue five times as many certificates. This quickly created a 'distortion' which meant that 'residential solar PV was receiving 75 years' worth of certificates immediately, while all other generation types ... only created RECs as the actual energy was generated' (Nelson et al., 2013: 389). This was at a time when most state governments were introducing their own solar FIT schemes. Set at differential rates, many generous, most of these solar FITs helped grow the domestic solar industry significantly. This 'distortion' had the effect of 'crowding out' other renewable energy technologies within the RET which led to an 'associated slump in prices due to the material oversupply of [RECs]'; in short, this arrangement was 'not incentivising new renewable energy development other than residential solar' (2013: 389). This distortion was addressed in 2010 by splitting the RET into two schemes: the Large-Scale Renewable Energy Target and the Small-Scale Renewable Energy Scheme, which remains its current form.

A review in 2012 by the Climate Change Authority found that the RET was now functioning more effectively, despite the impact of a complex policy landscape that included a now legislated carbon tax (Australian Government, 2012b). Importantly, the authority reinforced the RET's guiding principles of economic efficiency, environmental effectiveness and equity considerations, focusing on 'possible improvements to the RET, rather than challenges [to] its continued existence', for both the large-scale and small-scale schemes (2012b: v–vi). Many of these improvements sought to increase the policy stability critical to business confidence and longer-term investment. One of the ways it proposed doing this was to reduce the frequency of reviews from the current two years to four. These findings were reinforced in an uncommissioned review the authority undertook in 2014, where it concluded that 'changes to the policy environment in recent years have not weakened the case for the RET ... [and] it should be re-phased slightly to increase the chances that it can be met' (Australian Government, 2014b).

The incoming Abbott Government did not action this recommendation. Instead, Prime Minister Abbott proceeded to the next scheduled review in 2014, contentiously appointing a self-described climate sceptic to chair it. The prime minister had charged the review panel – known as the Warburton Review – to consider all options in its brief, including those to terminate the scheme or significantly limit it. Heated political debates then ensued between various political and industry actors over the RET's 'real' target, a debate that was, in essence, all about the size of the renewables contribution and the scheme's prospective future. It was thus no surprise when the 2014 Warburton Review concluded that the RET should be significantly revised, if not dismantled altogether over time, arguing that

> Although many representatives of the renewables sector favour at least maintaining the current RET, the Panel is of the view that the interests of the broader community should take precedence and that, as the RET in its current form is imposing significant costs on the economy, it should be substantially reformed, with greater emphasis placed on lower cost alternatives for meeting the Australian Government's CO2-e emissions reduction target. (Australian Government, 2014a: iii)

These recommendations not only ran counter to the renewable energy momentum worldwide, but also to the views of the wider Australian electorate which, as we saw, were largely supportive of the RET. But, more than this, the Abbott Government's appointment of a seemingly compromised figure to lead a major review into the RET's future undermined confidence in the review's objectivity. Rapidly changing political circumstances have in any case seen the government put the review's recommendations aside as, in the face of stiff political and public opposition, it attempts to find a compromise solution.

The politics of renewables policy in Australia

Given the structure of Australia's resource economy, and the influential role that fossil fuel networks play in it, it is no surprise that Australia's renewable energy politics have been particularly contentious. These types of policy are very difficult to 'get right' in any case – as we saw with Germany's own renewables story. While the climate debate is the overarching frame through which the politics of renewables in most countries proceeds, on the ground it usually centres on three main themes or

narratives – for both opponents and proponents. These themes are cost, feasibility and jobs; and it is largely through their prism that the renewable energy conversation in Australia takes place (see Curran, 2012).

Cost, especially the impact of renewable energy policies on electricity prices, is a key theme in Australia, as elsewhere. Prime Minister Abbott used this theme as a main justification for the Warburton Review, just as he did to justify repealing Australia's short-lived carbon tax. There is no doubt that electricity prices have risen significantly over the past few years in Australia; the IEA calculates that prices increased by over 60 per cent from 2008 to 2012 (2014: 16). There is doubt, however, about the degree to which these renewable energy policies have contributed to increased electricity costs. In its 2012 report, the Climate Change Authority acknowledged that emissions reductions schemes such as the RET 'entail costs that are borne by electricity consumers already experiencing large increases in electricity prices' – albeit 'for other reasons' (Australian Government, 2012b: 1). These other reasons go in part to the organisation of Australia's electricity infrastructure. Australia's regulatory framework rewards electricity networks for maximising their infrastructure spending. This has resulted in networks spending considerable sums on the 'poles and wires' of electricity distribution even during times of falling demand, which is currently the case. These infrastructure costs are then passed on to consumers as price rises. This finding was backed by an Australian Senate Select Committee enquiry in 2012. The committee observed that, while the sources of electricity price increases vary,

> the most significant of these unfair increases is due to overinvestment in network infrastructure by predominantly state government owned network businesses. This has been commonly referred to as gold-plating. The current rules of our electricity market mean that there is a perverse incentive for network businesses to spend more than they need to on their assets. (Australian Senate, 2012: 32)

Despite these findings, increasing electricity costs have been used to considerable discursive effect by political actors set on fostering the view that climate schemes such as the RET, and the carbon tax before it, are the largest single contributors to such price hikes. As Hill (2014) contends,

> Since 2009, the electricity networks that own and manage our 'poles and wires' have quietly spent $45 billion on the most expensive

> project this country has ever seen. Allowed to run virtually unchecked, they've spent vast sums on infrastructure we don't need, and have charged it all to us, with … [the] spending … approved by a federal regulator.

The 2014 Warburton Review was forced to concede that the RET made only a small contribution to these price rises. It found that while the 'direct costs of the RET currently increase retail electricity bills for households by around four per cent … modelling suggests that the net impact of the RET over time is relatively small' (Australian Government, 2014a: i). ACIL Allen, the research body commissioned by the Warburton Review to analyse the impact of the RET on electricity prices, concluded that prices will rise by an average of $47AU annually between 2015 and 2020, but will then begin to fall; interestingly, a larger target of 30 per cent would result, not in further increases, but in further price reductions (Cox and Hannam, 2014).

The actual reasons for falling electricity demand, and its impact on pricing, are less discussed. According to a key energy analyst, demand has fallen for three main reasons: the penetration of energy efficiency schemes and appliances, including energy ratings; the decline of electricity-intensive industries such as aluminium smelting; and behavioural change by consumers in the face of rising prices – fostered, paradoxically, by the successful 'scare' campaign mounted by the then Abbott Opposition and now government, regarding the stark price consequences of the carbon tax (in Hill, 2014). As Hill (2014) comments, an 'entirely *unforeseen* consequence of the [electricity] industry's profligacy has been the revolution it has triggered in the way we consume power' leading to more conscious electricity usage and investment in domestic solar systems. For the electricity network industry, this represents a 'death spiral' of demand that means they have to recover their costs from a smaller consumer base. This in turn sets up an unwelcome cycle: as prices increase more consumers are prompted to invest in solar which then decreases network demand even further. That this reduced power usage should translate to a negative that increases prices as usage decreases points to the criticality of governments getting the policy design and regulatory fundamentals of the electricity industry right. Germany, as we saw, experienced its own version of a similar set of circumstances, albeit against a very different background, and is beginning to consider some redress. In Australia there is, as yet, little serious talk of regulatory reform of the electricity network.

The second key theme is feasibility. As we saw, the capacity to generate stable baseload power – that is, a 24 hour continuous supply – goes to

the heart of energy security. Renewables are hence criticised for their intermittence and unreliability. One commentator recently stated that a key problem for many renewables is the impact of 'irregular weather patterns, which lead to uncertain and intermittent power output'; this is not only 'a big challenge for electricity generators and retailers,' but can also cost 'lots of money' (Larkins, 2014). In short, while fossil fuel powered generators can produce electricity continuously, wind and solar resources are only able to generate an average of five to eight hours of electricity per day (2014). Larkins hence concludes that

> The reality is that the higher the proportion of electricity produced from renewable sources, the more we must have available standby base load capacity from fossil- or nuclear-fuelled plants for when the wind does not blow and the sun does not shine. (2014)

While recognising the challenge of continuous electricity supply, others dispute that renewables fall considerably short in meeting it. Diesendorf (2010, 2013, 2014), for example, argues that a 'baseload myth' too often undermines the potential of renewables. This myth promotes the view that 'renewable energy would always have to remain a niche market, rather than achieve its true potential of becoming a set of mainstream energy supply technologies with the capacity to supply all of Australia's and indeed the world's electricity' (2010: 2). Diesendorf disputes the charge that if renewable energy is to make any substantial contribution to the electricity grid, 'it must await either the development of baseload renewable power stations or a vast amount of storage' (Diesendorf, 2013). He considers that the issue of renewables and baseload is now better understood, with the challenge more one of supplying peak demand rather than continuous baseload power. While a single wind turbine or solar unit may indeed be intermittent, the technologies currently under development are an entirely different proposition. Nor is it necessarily efficient to run expensive base load electricity generators continuously to cover peak demand that may only run to a few days a year. As Mills (2010) also observes, base load output is 'not a fundamental requirement of modern energy production' in any case; rather it is 'a characteristic of certain fossil, geothermal and nuclear plants that are operated continuously to lower their relative capital expenditure versus fuel cost'. The security of energy supplies instead relies on 'the ability to match inflexible sources of power – those that can only generate energy at certain times such as wind – with flexible sources of power – those that can generate and store energy such as solar' (2010).

For Diesendorf (2013), the primary challenge of renewable electricity is to 'supply the peaks in demand' – which needs to be distinguished from base load; and 'this can be achieved with both geographic dispersion and a mix of flexible and variable power'.

Finally, we have the theme of jobs. The issue of jobs comes close to matching that of cost in the public consideration of renewable energy. It is thus a narrative that is used to considerable effect by opponents of the industry. Mining, particularly during the production phase, is not a big employer, even as public perceptions are often to the contrary. But the fossil fuel sector is a very large contributor to Australia's economic strength and often the backbone, with its spill-over effects, of regional employment and prosperity. The perceived threat posed to mining by climate policies taps genuine employment insecurities in the Australian community, particularly at a time of rising regional unemployment. This reality has enabled a narrative of 'jobs carnage' to gain a considerable foothold in Australia (Curran, 2012). Responding to proposed climate policies in 2009, the then chief executive of the Minerals Council of Australia, a preeminent minerals sector industry association, viewed the restructuring that would necessarily be imposed on the energy sector as 'jobs carnage'; one where the expected shedding of tens of thousands of jobs by 2030 would have a 'severe' impact on regional Australia (Hooke, 2009).

The renewable industry, by contrast, is a large employer, as is often the case with manufacturing industries and as we saw in our German case. A 2007 Commonwealth Scientific and Industry Research Organisation (CSIRO) report on 'Growing the Green Collar Economy' in Australia contended that 'a rapid transition to sustainability would have little or no [negative] impact on national employment', with employment expected to increase significantly over the next two decades (Hatfield-Dodds et al., 2008: 1). The authors envisaged that 'employment in sectors with high potential environmental impacts will also grow strongly, with projected increases of over 10 per cent over ten years'; this would create an additional 230,000 to 340,000 new jobs in a range of related sectors, such as construction and transport, an increase that is 'projected to grow significantly faster than the national average' (2008: 1). A report on what was conceptualised as Australia's projected 'Green Gold Rush' made similar predictions (ACF and ACTU, 2008), as does the Beyond Zero Emissions Australia Report (2010). While now a little dated, these findings continue to have currency today.

The findings stem from the view that renewable energy production in fact requires more labour than conventional production, including

jobs in regional areas; indeed, this is one of the reasons for its costliness (Lovegrove, 2009). In response to the Abbott Government's proposal to alter or retire the RET, Australia's Federal Opposition leader too claimed that a demise in renewables investment would spell large job losses. However, while this may be the case, the renewables jobs profile is a complex one. The distribution of potential green jobs will not necessarily be even, nor will they directly replace mining job loss at the regional level (Pearce and Stillwell, 2008). The requirement for special skills and qualifications can also complicate their geographical spread. Careful planning on the part of governments is hence critical to successfully advancing the green jobs enterprise.

EM, CSR and renewables

The corporate sector too is divided over the renewable energy promise in Australia. Renewable energy industries are clearly committed to what they recognise as a profitable sunrise industry, but are also frustrated by the uncertain policy environment that has already seen many of them go 'bust' or has forced them to transfer their investments to more favourable global locations. To this degree, regardless of the (re) design of the RET finally settled on, the Abbott government has already succeeded in undermining the Australian renewables energy impetus. The overarching issue for the corporate sector as a whole is the future of Australia's energy policy in an age of climate change – policy that impacts them considerably regardless of their specific industry activities. But it clearly impacts the mining sector most directly and most starkly. We have already observed the close link between mining and climate policies in Australia in Chapter, 4 and we examined the unconventional gas industry in Chapter 5. With climate policy posing significant challenges in a resource economy such as Australia, it is no surprise that many of the mining sector's 'modernisation losers' – 'old' emissions-intensive industries – resist the transformation required of them, both corporate and industrial.

Sustainability transitions often require forgoing previous advantages, and the fossil fuel sector in Australia's resource economy has accrued many such advantages which it would be understandably reluctant to relinquish. The generous subsidies that have historically been paid to the sector are an important example of such advantages. Fossil fuel subsidies, particularly for oil and coal, totalled $US550 billion in 2011 (IEA, 2014a: 4). Riedy (2007: iii) points out that Australia provides 'substantial financial support for the production and use of fossil fuels, through direct payments, favourable tax treatment and other actions';

this has the overall effect of keeping costs down for the sector which in turn makes it 'harder for renewable energy to compete'. There is somewhat of a paradox at play here. While industry as a whole might chafe, on principle, at the notion of government 'picking winners' – and, indeed, this forms the basis of some of the criticism levelled at the RET and associated schemes – the fact remains that the mining sector has benefited significantly over time by being so favoured.

But subsidies and in-kind support are now also becoming an important part of the renewable energy story – as they have often been for new industries. While fossil fuel subsidies remain four times those for renewable energy, renewable energy subsidies are also rising rapidly, amounting to $US120 billion in 2013 (IEA, 2014a: 4). Feed-in tariffs or subsidies for domestic solar units at the state level have made a major contribution to the success of the solar industry in Australia, and elsewhere. We have already observed the major role they have played in launching and supporting the renewable energy industry in Germany. Like some of their German counterparts, some Australian schemes too have been very generous, and their contribution to electricity price increases has been used as a main justification for their diminishment or removal. In Australia, these solar subsidies have been the subject of extensive political and media scrutiny and their seeming inequity – allegedly advantaging the rich who are better able to afford solar systems – has fuelled the arguments of renewable energy's detractors (see Shann, 2013). Nonetheless, among this fierce contestation, the subsidies provided to the fossil fuel sector usually garner less attention, as do some of the more direct commercial reasons that motivate the sector to contest changes to business as usual.

A recent report by the Climate Institute and the Australian Conservation Foundation (ACF) investigated these motivations (Climate Institute and ACF, 2014; see also Jacobs, 2014). It examined the financial incentives of a number of corporations and business associations who had made submissions to the 2014 Warburton Review, recommending that it either be scaled back or, in some cases, discontinued. These included some of Australia's largest energy providers such as AGL, Origin Energy and EnergyAustralia; and industry associations such as the Energy Supply Association of Australia (ESAA), the peak industry body representing Australia's stationary energy sector and whose large membership is made up of some of Australia's largest energy providers (Climate Institute and ACF, 2014). Based on commissioned modelling (Jacobs, 2014), the report proposed that while curtailing the RET would be of significant financial benefit for these industries, this would result in

> $AUS8 billion additional profit to coal and $AUS2 billion to gas generators … primarily driven by a 7 per cent increase in coal-fired power production and higher wholesale electricity prices … ; [n]o decline in electricity prices … which could increase slightly; … 150 million tonnes of additional carbon pollution by 2030, and 240 million tonnes by 2040; … $AUS8 billion lost investment in renewable energy; … and $AUS680 million of extra federal spending needed to reach Australia's minimum emission reduction target by 2020. (Climate Institute and ACF, 2014: 3)

Whether these commercial benefits constitute the major motivation for these industries is difficult to substantiate without further enquiry. But what is clear is that while significant benefits would accrue to these industries if the RET was diluted, this would not translate to comparable benefits for Australia's climate mitigation efforts.

Conclusion

There is no doubt that transitioning from the fuels that have powered industrial society for close to two centuries is a monumental undertaking. It is unlikely that any country will be spared the enormous challenges that such a transition poses. Some of course will be impacted more than others, just as some will rise to the challenge more keenly than others. It is tempting, but altogether too easy, to allocate leader or laggard status to different countries caught up in the renewables enterprise – even as some appear to behave this way. Our German and Australian cases point to just such a characterisation, with Germany a leader in the renewables transition and Australia, at this point in time at least, a seeming laggard. Yet the reality is somewhat more nuanced. Every country has its 'modernisation losers'. The corporate resistance to modernisation is certainly not confined to Australia, even if countries with strong resources profiles are particularly challenged.

Germany's own 'modernisation losers' – energy-intensive industries such as aluminium and steel production – were vocal in negotiating favourable conditions in their renewables policy, in part by playing the 'carbon leakage' card. They argued that increasing electricity prices would force them to relocate their impacted industries elsewhere. This would not only damage German jobs and tax revenue, but would also do little to contain global emissions. The sector was hence successful in having the renewable energy surcharge 'capped for companies with electricity costs of over 15 per cent of their gross added value'; this ran to

730 companies, with many in the chemical, steel and aluminium sector exempt from the electricity surcharge altogether (Hillebrand, 2013: 669). Following Jänicke (2010), Hillebrand also points out that in Europe and internationally, 'the conventional energy-intensive industries play an important (veto) role in German politics'. He points to Germany's compliance in the EU's emission trading scheme's over-generous allocation of emission allowances. In the second trading period of 2008–12, the German government actively lobbied for substantial concessions for coal-fired power generators and energy-intensive industries, with the next trading period likely to see this generosity extended further (Hillebrand, 2013: 669).

Such scenarios put the corporate sector's CSR credentials to the test. In a ten-year survey of the state of CSR in Australia, the Australian Centre for Corporate Social Responsibility found that progress had been slow and leadership for CSR within firms limited (ACCSR, 2014). While CSR is now 'on the radar' of most businesses, and reporting practices have improved, this has not translated into strong leadership for CSR both within the firm and from government. We saw that CSR is conceptualised and delivered differently in Germany, and across the EU. But even here its politics are difficult and its commitments variable. What is clear in both countries, and indeed in many countries across the globe, is that grand modernisation projects such as energy transitions, and perhaps even grander modernisation projects such as EM and CSR, rely on committed political will to sustain them.

Conclusion

The early 21st century is clearly an age of 'sustainability'. Increasing numbers of governments across the globe have signalled their intention to foster environmental renewal and set the world on a more sustainable path. Many others have already achieved significant outcomes and are pursuing ambitious plans. Business too has stepped up to the challenge. Through their participation in ecological modernisation (EM), and through the conduit of their own modernisation paradigm of corporate social responsibility (CSR), many in the corporate sector have signalled their willingness to do their part to achieve sustainable development (SD). Civil society, as we have seen, has been a central prompt of sustainability throughout. Yet a paradox of this sustainability age is that as awareness of environmental problems increases, and as environmental activity among governments and business grows, key environmental problems worsen and the world – at least regarding climate change – is heading into dangerous territory (UNEP, 2012a, 2012b; IPCC, 2014). This is despite the fact that all key social sectors have stepped up to addressing the sustainability challenge, albeit to varying degrees. In light of these trends, it is hard to avoid the conclusion that while the *idea* of sustainability has taken root, its *practice* is lagging.

How to explain this has been part of the book's aims. As reflected on throughout the book, what sustainability means and what kind of transformation is advanced in its name remains contested. The book has traced sustainability's trajectory from its early formative years as SD, through to the dominant frames of EM and CSR that now shape it. This framing reveals the contest over what the sustainability ambition should be and whose version of it should prevail. Throughout this book, our discussion has highlighted the difficult power relations of environmental change. These power relations are entirely expected. They also

help explain the corporate sector's strategic riposte in CSR. Despite SD's promise that sustainability and development could be reconciled and despite EM's determination to achieve such reconciliation in a mutually beneficial manner, the fact remains that addressing environmental problems requires a significant transformation of business as usual – a transformation that impacts business' commercial ambitions. This is no more evident than in the area of energy restructuring that the book's case studies have focused on. In particular, the fossil fuel energy arrangements that have served the world well for so long, as well as enriching and empowering the industry sectors delivering them, are now confronted with having to revise or even surrender their highly successful franchises for the greater social interest. It is no surprise that such formidable prospects are matched by equally formidable resistance.

Yet, there remains space for optimism. Our analysis has pointed to the enormous challenges that the sustainability ambition still confronts. But, embedded in these challenges and in this analysis, are factors that offer hope that the ambition is not yet spent. In closing, we consider three factors that particularly matter.

Political modernisation matters

Neo-liberalism and globalisation may have reconfigured the contemporary role of the state but governments, and political actors, still matter; indeed they are fundamental to the modernisation task. In a capitalist society, business clearly occupies a unique and 'privileged' position (Lindblom, 1977). Not only does business, particularly large corporations, possess extensive resources but they also know that the political sector's own interests rely on the effective servicing of business needs. Moreover, the co-dependent relationship between government and business in a modern capitalist society means that governments are likely to share corporations' commercial ambitions. They are also vulnerable to being 'captured' by them. Governments' political imperatives – to ensure that the infrastructure of capital accumulation is a stable one – are linked to their electoral imperatives of retaining power. Modern political parties' capacity to be effective economic managers is central to their political success. In contemporary capitalist democracies, politics is more likely to anticipate business needs, rather than be directed by business. Rather than blatant 'conspiracies' that force the hand of government – although history testifies to these too – the political sector is more likely to anticipate the requirements of business by creating an economic and political architecture that attracts business

investment. For Lindblom this can occur independently of any direct pressure by business (1977, 1988). Often business also shares governments' or other political parties' ideological beliefs, so that there is little need for persuasion of any kind.

This helps explain why an EM route underpinned by a co-benefits ethos is appealing to business; and especially so if it is the prevailing mainstream kind. Referring to climate policy in Australia, but applicable more broadly, Mikler and Harrison (2013: 414) argue that '[p]olitical constraints … ensure that governments cannot significantly increase the economic costs of essential goods and services, nor regulate social activities sufficiently to effectively mitigate … emissions without suffering negative political consequences'; this is why 'technological innovation is a preferred option of national governments' and global institutions. Importantly, however, they also argue that, despite initial resistance, many corporations will accede to the need to modernise if governments create a regulatory and policy environment that they believe will not unduly disadvantage them vis-à-vis other businesses, both nationally and globally.

Political strategy and political leadership hence matter. We have argued throughout the book that, even in a neo-liberal age that has reconfigured the government-business relationship and bolstered corporate power, governments remain powerful. As Bell and Hindmoor (2014: 483) conclude, while business is indeed powerful and – as Lindblom argues – not like any other interest group, business power is nonetheless 'mediated and conditioned by the ideas of politicians, voters and other actors'. The degree to which business is able to 'secure a favourable policy environment' hence relies on these sets of actors and the 'institutional environment' in which they all find themselves (2014: 483). Effective political strategies, and effective government-business negotiations, are critical to the capacity of political elites to undertake the EM some directly subscribe to.

We saw that in the United States, the Obama administration utilised a range of political and regulatory measures available to it to pursue climate modernisation, against the dogged resistance of political and corporate networks. In Germany, a long-standing political commitment to EM, from the very apex of the political hierarchy, helps explain how such an ambitious renewable energy transition program could emerge. Of course, how effective these modernisation measures prove in addressing climate change in both countries remains contested. Nonetheless, as Bailey et al. (2012: 706) point out, the 'temptation', in climate policy analysis at least, 'is to view structural factors, such as nations' levels of fossil-fuel

dependency and economic capability to finance mitigation actions, as over-whelming constraints and, consequently, to under-emphasise the capacity for political innovation to bring about substantive policy change'. There is no denying the daunting nature of these constraints, but they are not entirely impenetrable. Moreover, as we observed above, once it is clear that the policy environment will change, business will often adapt, even if grudgingly. We saw this in Australia during the brief period of time that the carbon tax applied; despite initial resistance business adapted themselves to the new requirements and the proclaimed 'business doom' never eventuated. Once again, this is not to deny the formidable 'power play' behind the scenes. As we observed in Chapter 4, the mining sector in both the United States and Australia mounted an effective counter-campaign to which it conscripted the support of some key political actors. But to affirm business power is not to deny the political sector's own agency – should it, importantly, choose to exercise it for strong environmental ends. Nor is the affirmation of business power a denial of the corporate responsibility potential, even if this potential is often triggered 'externally' – by external civil society stakeholders – rather than 'internally' by corporate actors themselves.

Corporate responsibility matters

We saw throughout the book how corporations have been empowered by neo-liberalism and globalisation. But we also observed how their social and political roles, and the public expectations of these roles, have expanded as a result. This in part stems from the contemporary 'governance turn' that incorporates a broader range of actors, especially business, in decision-making. This has invested business with enhanced influence, but it has also ascribed it expanded responsibilities, particularly as governments relinquish some previously provided functions which the public then expect corporations to take up. Even when corporations seek augmented voluntarist and self-regulation powers, they need to establish the standards, construct the policy measures and implement the practices – all under the more watchful eye of both government and civil society. As Crouch points out, for example, when large corporations invest in less advanced countries, the likely absence of a properly functioning political and legal regime means that 'the firm becomes its own law-enforcement agency … and has become hopelessly implicated in politics, even if it does not want to be' (2011: 133–4). Practices that are acceptable, indeed government sanctioned, in one country (usually developing) is in an era of globalisation no guarantee that strong censure

will not emanate from another (usually developed). Corporations' petitioning for increased autonomy and a smaller government footprint means that 'nation-states no longer constitute the whole of the public domain' (2011: 137). Corporations are increasingly expected to make up the shortfall.

These increased public expectations are outcomes many in the corporate sector may not have wished or foreseen. And it falls on CSR to fashion a response that meaningfully addresses corporations' greater social responsibilities in the larger public space that they now inhabit. As Bebbington (2014: 34) contends, mining companies in particular 'find themselves at the very core of some of the most significant real world development debates of the moment'. While it is to a large degree up to them how they respond, at the same time this is not a decision entirely of their own choosing, as public expectations increasingly crowd in on their autonomy. Indeed, as Harvey opines, for increasing numbers of better informed citizens worldwide, the 'widening gap' between the rhetoric and practice of corporations 'is now all too visible' (2005: 2–3). This gap will not necessarily prompt corporations to embrace their social responsibilities more readily – as is well evidenced and documented – but certainly it can alter the dynamics of social change. We have analysed these dynamics – directly in Chapter 5, but generally throughout all of the case studies – through CSR's core notion of the social licence to operate. We saw how social licence has morphed from a corporate strategy to contain dissent, to oppositional actors' own weapon of choice. Social licence ideas not only challenge projects directly, but also threaten to expose the whole edifice of CSR. Paradoxically, while corporations have succeeded in placing social licence front and centre of corporate communication, it is the absence of such a licence, and its potential exposure as mere rhetoric, which threatens their much cherished legitimacy. As we saw, legitimacy is increasingly critical to commercial success today, and most corporations will actively seek it.

Significantly, social licence critique arises both externally and internally: externally, from community stakeholders who oppose and contest corporate projects and internally, from corporations' own shareholders who worry about the financial impact of ethically or socially suspect projects. We have already discussed the expanding profile of the fossil fuel divestment campaign. This was reinforced recently by the head of a large French banking corporation who lamented that some countries had 'some way to go' in taking their social and environmental responsibilities seriously. Talking of Australia, but applicable more broadly, the corporate head warned that Australia's recent environment-related

decision-making made 'international investors more reserved about coming to Australia' since international investors nowadays kept a much closer eye on countries' and companies' corporate responsibility practices, particularly concerning the environment (in Yeates, 2015). In an age when climate change is increasingly harder to deny, an especially keen investor eye is trained on the reputational and hence financial risks associated with investing in large resource projects in the coal mining sector (2015). But even on an individualised consumer level, and among lesser politically motivated constituents, product boycotts can quickly go 'viral' and damagingly sour 'brand power'.

While CSR may have been 'invented' by corporations as a way of shaping and maintaining their hegemony, there is today a discernible shift from CSR as 'an agenda framed by firms themselves, to corporate social accountability framed by groups of citizens' (Crouch, 2011: 142). Depending on where you stand, and who you are, this either augurs well for CSR's enhanced responsibility potential – or augurs threateningly for corporate hegemony. Civil society has been instrumental to achieving this shift. Hence, civil society too matters; indeed matters a great deal.

Civil society matters

Civil society remains central to environmental renewal and is the glue that binds the sustainability enterprise together. It is also one of the actors that can be neglected in some accounts of business' 'impenetrable' structural power. While Lindblom's account of the structural power of business is in most respects apt, in can also neglect the considerable agency of a number of other actors – including political elites and civil society. We observed civil society's central role in all our chapters, and especially in our case studies. Throughout we also observed that, quite paradoxically, while globalisation and neo-liberalism have empowered corporations, they have also emboldened their critics. As Harvey (2005: 78) remarks:

> Non-governmental and grassroots organizations (NGOs and GROs) have also grown and proliferated remarkably under neoliberalism, giving rise to the belief that opposition mobilized outside the state apparatus and within some separate entity called 'civil society' is the powerhouse of oppositional politics and social transformation. The period in which the neoliberal state has become hegemonic has also been the period in which the concept of civil society ... has become central to the formulation of oppositional politics.

Yet, the overall question remains: are the prevailing sustainability discourses and practices sufficient to stem existing and accelerating social and environmental harms? Certainly the past three or four decades since SD's inception have observed quite frenetic activity in the environment domain, and significant gains have been made. These gains have been achieved largely through coordinated partnerships between the three key actors in environmental governance: government, business and civil society. But, as Nyberg and Wright (2013: 420–1) observe, partnership comes at the price of compromise; which can in turn privilege the 'hegemony of the market' and the 'reframe[ing] of nature as a commodity'. This may work well in some domains, but does little to address the justice and equity concerns that underpin sustainability problems, and that a stronger EM urges be better accommodated in the environmental governance response.

In our very first chapter we examined the rise of the green movement and its bifurcation, like many movements before it, into its reformist and more radical arms. Despite its evolution over time and the 'win' of its reformist current, its significant role in shaping the ongoing dynamic of social change remains in place. Social change has its own 'push-pull' dynamic. As we saw, the green movement was successful in putting sustainability issues on the social and political agenda of most countries, which in turn prompted a counter-strategy by a corporate sector threatened by its potential. This counter-strategy was successful in ensuring that a mainstream EM and a soft CSR would largely prevail. And this is largely where we find ourselves today. But the social change dynamic is not static; weariness with the limitations and sluggishness of a mainstream EM and a soft CSR may yet impel a more demanding 'correction'. A vibrant civil society sphere is not only central to social change, it is also critical to the development of the stronger EM and CSR forms on which the sustainability enterprise relies.

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