

The political economy of carbon pricing in Australia: Contestation, the state and governance failure

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Publication Date:

2015

DOI:

<https://doi.org/10.26190/unsworks/18509>

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The political economy of carbon pricing in Australia: Contestation, the state and governance failure

Rebecca Pearse

A thesis in fulfilment of the requirements for the degree of
Doctor of Philosophy



School of Social Sciences
Faculty of Arts and Social Sciences

October 2015

ORIGINALITY STATEMENT

‘I hereby declare that this submission is my own work and to the best of my knowledge it contains no materials previously published or written by another person, or substantial proportions of material which have been accepted for the award of any other degree or diploma at UNSW or any other educational institution, except where due acknowledgement is made in the thesis. Any contribution made to the research by others, with whom I have worked at UNSW or elsewhere, is explicitly acknowledged in the thesis. I also declare that the intellectual content of this thesis is the product of my own work, except to the extent that assistance from others in the project's design and conception or in style, presentation and linguistic expression is acknowledged.’

Signed

A handwritten signature in black ink, appearing to be 'R. Z.', written in a cursive style.

Date 22 / 10 / 2015

Abstract

This thesis examines the rise and fall of an emissions trading scheme in Australia between 2007 and 2014. It offers a novel analysis of the Australian climate policy debate. The thesis develops a heterodox political economy of carbon pricing that draws out the links between polyvalent social struggle over climate change and the process of instituting marketised climate policy.

In contrast to existing depictions of the struggle over carbon pricing as a neat division between forces for and against carbon commodification, the thesis argues that there is a more complex dynamic at play and explores the contradictions of carbon pricing in theoretical and empirical detail. The prospects of legitimate and effective carbon pricing cannot be asserted in principle; rather they must be examined empirically. The thesis provides evidence of the interconnections between political contestation and the brief institution of a carbon market. It details carbon pricing policy and legislation, parliamentary debates, and contests in the media and civil society.

The case of carbon pricing in Australia illustrates that the approach to marketised climate policy adopted does not deal with, and in fact has exacerbated some pre-existing issues of governance failure in energy and land sectors. The thesis demonstrates that governance failure provides a more compelling explanation for the outcomes observed than approaches that conceptualise the political economy of carbon pricing in terms of state failure or market failure.

The normative implications of the political struggles in Australia are explored. Contestation over carbon pricing reforms has posed a political challenge to marketised climate governance in Australia. Conservative and industry opposition is a key part to the political failures of carbon pricing, but so is the broader lack of authority of social democratic political parties, experts and environmental organisations on this issue. A popular agenda for carbon pricing is now very far off, if not impossible. However, new strategic directions within environmentalism indicate that ‘energy politics’ is emerging as a more fruitful political arena than carbon pricing politics.

Acknowledgements

I owe particular thanks to Marc Williams who has been an immensely supportive supervisor and lecturer before that. Marc has provided invaluable feedback and guidance. I'm indebted to his capacity to help dig out an argument when it's buried.

Stuart Rosewarne from the University of Sydney has been hugely helpful and encouraging. He generously gave up his time to read draft papers and chapters along the way and I have been inspired by his scholarship. I am also grateful to Liz Thurbon my co-supervisor and to the thesis examiners for thoughtful feedback.

James Goodman, Raewyn Connell, and Linda Connor have all been great to work with and learn from. On different projects they have all taught me a lot about how to approach academic work and how to think. I owe a special thanks to Linda for listening to my climate policy ramblings on the car drives North West.

I have been privileged to share parts of my intellectual journey with other students at UNSW. Michelle Jamieson, Ashley Barnwell, Florence Chiew, Patricia Morgan, Zoe Baker, Anisha Gautam, Ele Jansen, Emily Auton, and Yvette Selim have all been wonderful companions. Very special thanks to Ashley for the fruit box chats and to Michelle for telling me to finish.

Thanks also to the people who participated in interviews for this project. We had sober reflections on the challenge of climate change in those discussions and I am grateful to have benefited from their wisdom. Thanks also to Julia Dehm, Ellen Roberts and Bronislava Lee for their friendship and their insights into climate politics of all kinds.

Big thanks to Dayna Williams and Lance Pearse for being awesome. Biggest thanks to Tim and Jim Hitchcock for constant gentle reminders that relaxed is the best way to be. They are my heroes.

Published material

Some of the material in this thesis is drawn from peer-reviewed journal articles published during my candidacy.

Chapter 6 draws from peer-reviewed publications on land offsets and Australia climate policy.

Pearse, R. (2013), 'Back to the land? Legitimation, carbon offsets and Australia's emissions trading scheme', *Global Change, Peace and Security*, 25(1): 43-60.

Pearse, R. (2012), 'Mapping REDD in the Asia-Pacific: Marketisation, governance and contention', *Ephemera: Theory and Politics of Organisation*, 11: 181-285.

Chapter 3 uses text from a peer-reviewed paper reporting on the Australian emissions trading legislation.

Pearse, R. (2014a), 'Carbon trading for climate justice?', *Asia Pacific Environmental Law Journal*, 17 (November): 111-130.

Chapter 1 uses a small amount of text from a review article written with Steffen Böhm.

Pearse, R. & Böhm, S. (2015), 'Ten reasons why carbon markets will not bring about radical emissions reduction', *Carbon Management*, 5(4): 325-337.

Chapter 7 uses a small amount of material from a co-authored book I wrote with Stuart Rosewarne and James Goodman.

Rosewarne, S., Goodman, J. & Pearse, R. (2014), *Climate Action Upsurge: An Ethnography of Climate Movement Politics*, London: Routledge.

There are other publications I have written on climate and environmental politics during my candidature. There is no text taken from these works in this thesis, but they have been part of my learning process.

Pearse, R. (2010b), 'Making a market? Contestation and climate change', *Journal of Australian Political Economy*, 66: 166-198.

Pearse, R., Goodman, J. & Rosewarne, S. (2010), 'Researching direct action against carbon emissions: A digital ethnography of climate agency', *Cosmopolitan Civil Societies Journal*, 2(3):76-103.

Pearse, R. (2014b), 'Review essay: Climate capitalism and its discontents', *Global Environmental Politics*, 14(1): 130-135.

Connell, R. & Pearse, R. (2015), *Gender: In World Perspective*, 3rd edition, London: Polity. [co-authored revision of Raewyn Connell's textbook, including new chapter titled 'Gender and environmental change']

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Acronyms

AAU	Assigned Amount Units
ACA	Australian Coal Association
ACF	Australian Conservation Foundation
ACCI	Australian Chamber of Commerce and Industry
ACOSS	Australian Council of Social Services
ACTU	Australian Council of Trade Unions
AFGC	Australian Food and Grocery Council
AGO	Australian Greenhouse Office
AIGN	Australian Industry Greenhouse Network
Ai Group	Australian Industry Group
ALP	Australian Labor Party
ANT	Actor Network Theory
APPEA	Australian Petroleum Production and Exploration Association
ARA	Australian Retailers Association
AYCC	Australian Youth Climate Coalition
BCA	Business Council of Australia
BP	British Petroleum
CCA	Climate Change Authority
CDM	Clean Development Mechanism
CEF	Clean Energy Future legislative package
CER	Certified Emissions Reduction
CEO	Chief Executive Officer
CFMEU	Construction Forestry Mining Energy Union
CIE	Centre for International Economics
CIS	Centre for Independent Studies
CO ₂	carbon dioxide
CPRS	Carbon Pollution Reduction Scheme
CSG	coal seam gas
DAP	Direct Action Plan
DOE	Department of Environment
DCC	Department of Climate Change
DCCEE	Department of Climate Change and Energy Efficiency
DIISTRE	Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education
EBA	Environmental Business Australia
EDF	Environmental Defense Fund
ENGO	environmental non-government organisation
ERU	emissions reduction unit
ESD	Ecologically Sustainable Development
ESAA	Energy Supply Association of Australia
ETS	emissions trading scheme
EU ETS	European Union Emissions Trading Scheme
EU EAP	European Union Environmental Action Programme
FME	Free market environmentalism
FOE	Friends of the Earth
GCC	Global Climate Coalition
GFC	global financial crisis
GHG	greenhouse gases

GWP	global warming potential
HFC-23	hydrofluorocarbon (HFC)-23 or trifluoromethane
IETA	International Emissions Trading Association
JI	Joint Implementation
JUSCANZ	Japan, US, Canada, Australia, New Zealand, also ‘Umbrella Group’
IPCC	Intergovernmental Panel on Climate Change
LNP	Liberal / National Party (also known as ‘the Coalition’)
LNG	liquefied natural gas
LPG	liquefied petroleum gas
MCA	Minerals Council of Australia
NEM	National Electricity Market
NFF	National Farmers Federation
NGF	National Generators Forum
NGO	non-government organisation
NSW	New South Wales
OECD	Organisation for Economic Cooperation and Development
PES	Payment for Ecosystem Services
QELRO	Quantified Emission Limitation and Reduction Objectives
REDD	Reducing Emissions from Deforestation and forest Degradation
RET	Renewable Energy Target
RFF	Resources For the Future
RGGI	Regional Greenhouse Gas Initiative
TAI	The Australia Institute
TCI	The Climate Institute
tCO ₂ -e	greenhouse gases equivalent to a tonne of carbon dioxide
TWS	The Wilderness Society
UNCTAD	United Nations Conference on Trade and Development
UNFCCC	United Nations Framework Convention on Climate Change
USCAP	United States Climate Action Partnership
WBPCF	World Bank Prototype Carbon Fund
WBCSD	World Business Council for Sustainable Development

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I *Introduction*

This thesis is about the rise and fall of an emissions trading scheme (ETS) in Australia between 2007 and 2014. More broadly, it is a critique of the political economy of marketised climate governance. Market-based emissions regulation has long been the centre of global climate policy practice. Australia's carbon trading scheme was one amongst several other proposals to create new wings of a global carbon market in the mid-2000s, many of which have been spatted down, postponed or shelved all together. As the peak of international momentum for climate action in the late 2000s has turned into a trough, the viability and legitimacy of carbon pricing has been challenged.

This thesis illustrates the unproductive role carbon pricing has played in the political response to climate change in Australia. To be clear, I will not be arguing that carbon trading policy, or other types of carbon pricing, in the abstract are to blame for society's failure to respond to climate crisis. Certainly, there are a range of inter-locking reasons for spiraling emissions and political inertia. There is a systemic and geopolitical backdrop to the 'local' Australian contest over climate policy. Key signs of the broader crisis include: the trebling circulation of fossil fuel capital via rapid industrialisation in emerging countries; the global boom in unconventional gas and oil; the new dynamics of an emergent multipolar world; and the ongoing refusal of the United States (US) to ratify the Kyoto and post-Kyoto United Nations Framework Convention on Climate Change (UNFCCC) agreement.

These systemic problems must inform any explanation for the climate crisis and political inertia evident across the world. Nonetheless, the central argument developed here is that the marketisation of climate governance is a significant part of the puzzle one is faced with when seeking to understand the failure to deal with the climate crisis. My conclusions are derived from Australian climate politics, and therefore reflect the desultory experience of seeing a flagship legislative package arrive briefly before its

central components were repealed after two years. However, there are some general insights about the challenges of legitimating carbon pricing schemes that can be drawn from this case.

Research questions

This thesis asks: how can we best account for the failure to institute a legitimate and effective carbon pricing scheme in Australia? My core interest in explaining the failure of carbon pricing is explored through four further questions:

1. How can we best theorise the relationship between political contestation and the process of instituting a carbon price?
2. How and why has political contestation over carbon pricing shifted over time in Australia?
3. What were the distributive and socio-ecological effects of Australia's carbon price?
4. What does this tell us about the prospects for decarbonisation and a just energy transition?

I argue that the failure to institute a legitimate and effective carbon price in Australia is an expression of the contradictions underlying marketised climate governance. In the context of capitalism all environmental regulations can produce political and distributive dilemmas. Taking a middle-range theoretical approach to political economy, I set out to explore the particular tensions underpinning carbon pricing in detail. With a neo-Polanyian perspective I argue that carbon pricing is premised upon contradictory goals of marketisation and climate protection, and this produces particular dilemmas for state agencies and for different actors involved.

Importantly, these dynamics and their consequences cannot simply be asserted as fact; they must be investigated empirically if we are to understand the nature of this, or any other instance of climate policy failure. In this work, I draw upon theoretical critiques of neoclassical economic theory from the political economy and economics literature, as well as empirical evidence of the distributive impacts of Australian carbon pricing legislation and the difficult political process that led to these policy outcomes. Based on this research, I argue that carbon pricing, particularly carbon trading, is a flawed approach for reducing emissions and stimulating energy transition in Australia. Some insights from this case, may be transferrable to other emissions-intensive settler societies, like Canada, New Zealand, or the USA.

In the Australian case, the approach to marketised climate policy adopted by the Federal government does not deal with pre-existing issues of governance failure, for example, inefficiencies and over-investment in electricity utilities, and contested and difficult land rights and land management issues in Australia and the Asia-Pacific where Australia trialled carbon offset programs. The distributive and political dimensions of these policy issues illustrates that the introduction of carbon pricing shifts the underlying tensions of emissions abatement task, producing new sites of contestation.

The normative position I take is that carbon pricing appears to be a counter-productive regulatory response to climate change. The political promise of carbon pricing as an effective and legitimate tool for emissions reduction has been undermined in political

contestation. Conservative and industry opposition is a key reason for the political failures of carbon pricing, but so is the broader lack of authority of social democratic political parties, experts and environmental organisations on this issue.

A more fruitful alternative could be to pursue a ‘direct’ regulatory agenda for just energy transition. This would no doubt incite further resistance and produce new contradictions. Having a different position does not answer the broader question of how to build popular support for energy transition. However, given the difficult experience of the ETS repeal, asserting a different kind of progressive policy agenda may contribute to the necessary search for new political possibilities.

Research and political contestation

Before proceeding further to explain my method and conceptual framework, it is necessary to foreground the relationship between politics and my pursuit of knowledge in this arena. The overall aim of this piece of critical political economic research is to provide a comprehensive and coherent account of a tumultuous period in Australian climate politics. Describing these events is itself a political task, and no doubt there will be readers who disagree with my interpretation of political contestation, particularly at those points where I depart from the narratives being settled upon amongst commentators and in progressive circles.

This project was inspired by my engagement with political activism on climate change and it draws upon discussions with environmentalists. However the thesis is not ‘action research’ aimed at solving a collective problem. My work is more removed from political practice than applied research. I have sought to occupy a space that goes beyond the false choice of intellectual detachment or uncritical engagement (Johnston & Goodman, 2006).

Exploring the theoretical and practical political limitations of marketised climate governance has been quite a journey. I started work on this thesis in February 2010, at a point when the fate of Australia’s first proposed national ETS was in doubt. The United Nations (UN) climate negotiation had recently fallen over in Copenhagen December 2009. The Rudd Labor government was erring on the question of whether to trigger an election after a year-long stalemate in Federal parliamentary debate over an emissions trading scheme called the *Carbon Pollution Reduction Scheme* (CPRS).

At the time I was working on another project researching new experiments in grassroots climate change activism, and through a volunteer collective at Friends of the Earth (FOE) I became engaged in debates about whether the movement should support the ETS. A difficult split occurred in the movement between those who viewed the ETS as ‘worse than doing nothing’, or ‘better than nothing’. More importantly, beneath the public positioning there was a more fundamental search for political agency going on (Rosewarne et al., 2014). Activists were dealing with larger personal and political questions about how to sustain momentum in the face of political inertia and legitimise their radical call to end fossil fuel dependence in favour of a rapid and just energy transition.

This challenge resonates today, all the more so because of what has played out in national politics. By 2010, the environment movement’s moment of disunity over

climate policy was marginal to the drama in parliament. Carbon pricing had become a divisive partisan issue. Four party leaders have been demoted amidst the climate policy debate. And in the space of 6 years an ETS has been shelved, revived, legislated and repealed.

Conservatives challenged the political legitimacy of carbon pricing. An intensive campaign against the 'carbon tax' was waged by senior members of the Liberal and National Party (LNP) coalition, in alliance with conservative media personalities, some business groups, and a small but vocal layer of civil society organisations. When I began this project, I overlooked the significance of opposition from conservatives. I laughed at their cynical and jumbled arsenal of arguments against carbon pricing. These ranged wildly from populist anti-tax and anti-regulation rhetoric, to critiques of carbon markets as corrupt and ineffective, to advocacy for a 'Direct Action Plan' - a policy that sounded like state planning, but was far from it in actuality. The confused bluster over carbon pricing has proven to be an effective strategy for inaction. But for some time, the importance of this opposition fell out of my analytic range as I investigated the apparent hegemony of carbon pricing as a central state response to climate change.

For some time, I was seeing the political landscape as a hegemonic unity among elites for a marketised environmental management agenda. I was learning that since the 1980s economists had worked to establish the case for market-based environmental regulation inside public institutions in Australia and across the world. Through countless publications, reports and rehearsal of the principles of environmental economics at consultations with governments, in meetings with business and university classrooms, the economics profession had established carbon pricing as common sense. Politically, a closed choice between different market mechanisms - voluntary measures, carbon taxation, or emissions trading - was set up for policy makers. By the late 1990s, representatives of fossil fuel capital in the global North began pragmatically engaging in climate policy processes and aligning with carbon pricing, when policy decisions were imminent. New industry groups specialising in carbon trading chartered the course toward marketised climate governance, and corporate partnerships with civil society organisations helped broker agreement.

I continued to be interested in what was behind the hope that carbon trading could contribute to emissions reduction given its theoretical and practical problems. Carbon pricing is premised on a reductive view of the carbon cycle, and naïve neoclassical economic assumptions about rational human motives, equilibrating market dynamics, and accidental 'market failure'. In practice, carbon pricing is much more complex than the world imagined in economic textbooks.

Australia's former ETS was one case in a globalising pattern of weak market mechanisms that have not reined in the expansion of fossil fuels - the largest source of greenhouse gas emissions. The *Clean Energy Future* (CEF) legislative package created significant windfall profits to some of the most polluting firms under the scheme, it promised negligible domestic emissions reduction, and allowed for weakly regulated use of international and domestic offset credits. Nonetheless, carbon pricing became a point of settlement, and then a prize policy for climate action advocates who have had to rally to overcome concerted resistance from the Right. In this context, having a critical perspective on the policy type, felt ridiculous and admittedly by neglecting the broader

political economic context, I was guilty of having a simplistic view of what was behind the deep political inertia.

On a more personal note, having a ‘radical critique’ of carbon pricing was difficult to share with friends in the movement who have taken a more sensible course. They are engaged in efforts to build social power through campaigns against fossil fuels, and for renewables. Looking at developments in these maturing energy campaigns, I think there is cause to anticipate a different kind of politics and new possibilities that could come from this.

My ongoing interest has been to understand the fragile consensus for marketised climate policy in light of its deficiencies. However, with time I have broadened my focus to consider the wider sphere of contestation. As the political debate continued in Australia, I did much rethinking. I now see the challenged authority of carbon pricing as part of a larger destabilised whole. The instability of climate politics and failed attempts to legitimate carbon pricing have become my ultimate focus. And the this thesis concludes that there are signs that a broader ‘energy politics’ has emerged in part because of the failure of marketised climate governance. The increasing political focus on competing energy commodities (e.g. coal, gas, wind, solar) potentially provides for an alternate reform agenda.

Approach and methodologies

The approach adopted in this thesis is a heterodox political economic analysis of carbon pricing that draws out the links between polyvalent social struggle over climate change and the process of instituting marketised climate policy. My analysis is informed by Polanyian and Marxist ideas about the political economic dynamics of markets and ‘commodity fictions’. This thesis develops and applies three core concepts: the state, governance failure, and political contestation.

The state: In capitalism the state has conflicting imperatives to provide conditions for economic growth in the short term, and for social/ecological sustainability in the long term (Hay, 1994, 1996). Any instance of environmental regulation can be read as an expression of the tension between these objectives and as the outcome of political conflicts. The state is an arena of struggle and a diverse institutional ensemble, minimally made up of a territory, apparatus, and population. Whilst the state does not have a fixed nature or form of agency, it is inscribed with various capacities and action-relevant biases (Jessop, 2014). The history of climate policy making in Australia shows that state agencies have sought out market mechanisms as a means to displace the climate crisis spatially, temporally, and politically. The recent episodes of conflict over the state’s response to climate change however, highlight that existing strategies for crisis displacement are in disrepute.

I emphasise the ongoing relevance of the state whilst also recognising that carbon trading has been organised and legitimised through a heterarchy of organisational forms. Much has already been said about the globally networked public and private actors and initiatives that have given life to carbon trading across the world (Bäckstrand, 2008; Bernstein et al., 2010; Green, 2008, 2013b; Streck, 2002, 2004). However, this does not signal a retreat of the state. State power is essential for marketised climate governance; it is necessary for the very existence and regulation of carbon pricing

schemes (see Lederer, 2012a; Rosewarne, 2010). The protection of territorially defined industry interests are highly visible in the design of marketised climate governance at the same time as carbon trading introduces new territorial logics and supra-national governance mechanisms (Bailey, 2007; Bailey & Maresh, 2009).

Governance failure: I use the term governance failure to conceptualise the rise and fall of Australia's ETS. Governance failure refers to a situation when the stated goals of a set of governing agents are not met, and no further progress is made due to ongoing disagreement. The term allows us to identify failure in broader terms than narrow diagnoses of state or market failure, and the definition applied here attends to both substantive and socio-political dimensions of governance failure. Governance failure may occur for a number of reasons. In the Australian case, the globalised project to price carbon has met fierce resistance within the national political sphere, illustrating a mismatch between governance and government. There are also specific sectoral cases where carbon pricing failure is attributable to both public and private authority. The efforts to price carbon have deferred, but not resolved, underlying contradictions associated with climate change.

Part of the intent behind my use of this concept is to draw out the political significance of the contest over carbon pricing in Australia. Marketised climate governance is a creature of diplomatic compromise and the negotiating work of policy experts working within intergovernmental organisations (IGOs) and government agencies across the world (Grubb et al., 1999; Newell & Paterson, 2010). It is also a technocratic project serviced by ahistorical constructions of 'carbon' as the problem (Swyngedouw, 2010). Put another way, carbon pricing politics is part of a broader global shift in environmental politics toward a modernist belief that environmental crises can be resolved by a techno-institutional fix, without addressing social contradictions (Hajer, 1995; Saurin, 2001). The substantive issues of policy design and political contestation in the 'local' context of Australia signals that this global technocratic vision for emissions management is not hegemonic.

Contestation: Broadly, I conceive of the contest over carbon pricing as an instance of political struggle over the role of markets in society. I develop a neo-Polanyian interpretation of contestation over carbon pricing and propose that the 'double movement' playing out is not a case of push and pull between forces for and against carbon commodification. Rather, the contradiction of carbon pricing, and therefore contestation over it, is more complex. In order to thematise and make sense of the unruly conflict, I draw on cultural political economy (Jessop, 2004, 2010; Sayer, 2001), specifically the notion of competing 'climate imaginaries'. Climate imaginaries are semiotic systems 'which imply a particular mode of organizing production and consumption, and a prioritization of environmental and cultural values' (Levy & Spicer, 2013: 659).

Jessop (2004) argues that semiosis (the intersubjective production of meaning) plays a role in constituting social / economic objects and subjects, e.g. labour, land, money, 'carbon credits', market experts, and community advocates and so on. More orthodox forms of political economy tend to reify these categories, privileging abstractions that denote system rather than lifeworld (Sayer, 2001). Studying semiosis gives us insights into the dynamics of legitimation and de-legitimation. Legitimacy refers to 'the acceptance and justification of shared rule by a community' (Bernstein, 2005: 142).

Legitimacy is conferred through decision making processes and broader socio-political contests (Habermas, 1976; Hay, 1994). Any new form of economic governance depends upon both institutional change and a new social formation through successful political, intellectual and moral leadership (Gramsci, 1971; Jessop, 2010). In the case of carbon pricing, a popular legitimate economic imaginary has not been realised.

I use semiotic analysis to unpack the competing imaginaries mobilised against the ‘techno-market’ imaginary associated with carbon pricing, these are the ‘fossil fuels forever’ imaginary (see Levy & Spicer, 2013; chapter 2) and an emergent ‘energy justice’ imaginary (see chapter 8). My interpretation is based on document analysis of the claims made by actors engaged in climate change debate in Australia, as well as interviews with experts and civil society actors. Interviews allow for a deeper insight into the lifeworld in which economic systems are always already embedded. It takes us beyond an ‘ideal types’ approach to political claim making.

Qualitative methods are needed in order to capture the diversity of motivations, agents and agency. I have set out to discover the inter-relationships between policy design processes, with political troubles thrown up when carbon pricing is the focal point of contestation. I look at political party strategies in this arena, industry positioning, the role of experts, as well as social movement engagement and disengagement. I also look at carbon pricing in practice paying attention to the particularity of issues thrown up by carbon pricing vis-à-vis different socio-ecological phenomena enrolled in efforts to establish a market in tCO₂-e.

Methods used were a combination of policy analysis, semiotic analysis, and semi-structured interviews. These methods constitute what Sayer (1992: Ch 9) calls an ‘intensive’ approach to research looking at how processes work in particular cases. I am concerned with actual patterns of political activities as well as contingent relations. Intensive methods differ from extensive methods. Extensive methods such as large surveys produce descriptions of large populations. Whilst extensive methods produce representative generalisation, they have limited explanatory power (Sayer, 1992: 243). With the combination of content analysis with interview data, I have sought to study actors in their causal context.

Policy analysis: Five policies and related legislation were analysed in terms of their stated goals, design and anticipated distributive impacts. I also consulted secondary literature and public submissions made to the government, comparing them against the government’s final policy design decisions. These documents helped me identify the key issues of concern for different actors involved and indirect evidence of how or whether the government responded to suggestions from ‘stakeholders’.

In order of public appearance the five key policies/laws analysed were:

1. The *Carbon Pollution Reduction Scheme* debated 2008 - 2009, shelved in 2010.
2. The *Direct Action Plan* announced February 2010, legislated in 2014.
3. The *Carbon Farming Initiative* announced August 2010, legislated in July 2011.
4. The *Clean Energy Act*, announced September 2010, legislated November 2011.
5. The *Clean Energy Finance Corporation* proposed 2010, legislated in July 2012.

In addition to climate policy, I have looked at documents supporting government funded forest carbon offset projects, Energy White Papers of 2012, and 2014, related energy policies such as the Renewable Energy Target, and reports on the National Electricity Market. For chapter 3 I consulted policy documents from the 1980s and 1990s. These were sourced from the Pandora web archive, as were archived policy documents from previous governments.

My analysis of the design and distributive impacts of Australian climate policies and legislation mirrors existing examples in the political economy literature (Perry et al., 2013; Rosewarne, 2010; Spash, 2010; Spash & Lo, 2011). These analyses critically examine the Australian ETS, with regard to both problems of policy design and the flaws of the economic theory that supports market-based climate policy. Like these studies, my study looks at the design and social/environmental effects of different climate schemes. I also investigate the stated goals and anticipated distributive impacts of different schemes outlined in Federal government documents, as well as Hansard records of parliamentary debate. The latter methods are more interpretive than is usual for political economy analysis of climate policy.

I take a ‘critical’ approach to investigating the development of climate policy. Critical policy analysis has been defined as ‘rooted in the social science tradition, historically informed and drawing on qualitative and illuminative techniques’ (Ozga, 1987: 144). My analysis is historiographical; it documents the Australian state’s historical support for extractive industries, notably fossil fuels, before tracing the connections and disconnections between the previous periods of climate policy debate in Australia (1988-1996; 1996-2006) and the period since 2007 (see chapter 3).

Taking an historical approach to policy allowed me to critically examine the negotiation of (temporary) political ‘settlements’ and shifting ‘discursive frames’ that have defined policy at particular historical moments (see Ball, 1993; Gale, 2001). For instance, I illustrate that both carbon pricing (taxation and trading) and voluntary emissions schemes emerged as the main climate policy options in Australia in the 1990s. Voluntary measures were preferred by the Federal government until public pressure for stronger action in the mid-2000s instigated the turn to carbon pricing. The last five years have shown that the state’s commitment to a carbon price of any kind was tenuous.

Importantly, I have been careful not to interpret these policy developments as evidence of linear progress, but rather as asymmetrical, temporary and contextual phenomena (Gale, 2001: 386). It is common in political science scholarship on climate policy to assume a rational and consensual process, whereby the spread of market mechanisms is understood as ‘policy diffusion’ that has occurred through the networking of ‘policy entrepreneurs’ (e.g. Braun, 2008; Crowley, 2013a; Wettstad, 2005) (see chapter 1).

In contrast to this approach, scholars drawing on the ideas of Gramsci, Marx, Polanyi and Jessop interpret contestation over climate policy as a struggle over whether and how capitalist markets might be transformed to stay within ‘safe’ climate limits (e.g. Levy & Egan, 2003; Lohmann, 2010; Newell & Paterson, 1998). This reading draws our attention to competing political interests and the economic imaginaries they deploy to influence climate policy (Levy & Spicer, 2013). Working with the related framework of cultural political economy, I have used semiotic analysis and semi-structured interviews (see below).

Semiotic analysis: Using the Proquest database I consulted news articles reporting on the carbon price published in two national newspapers. The *Sydney Morning Herald* (Fairfax) and *The Australian* (News Limited). For the years 2006 to 2014 I produced timelines of key events and details of media reporting on carbon pricing. I created spreadsheets listing day-by-day national news reports with a brief summary of issues being raised and actors involved.

Using these timelines and background information from interviews, I identified focal points in political contestation. For instance, in the case of the 2008-2009 *Carbon Pollution Reduction Scheme*, I have identified industry compensation in the form of free permits and the emissions reduction target as the two defining issues around which core constituencies rallied. There is ample evidence of this in the speech acts of actors, such as peak industry groups, the Greens,¹ NGOs (non-government organisations), Ross Garnaut and other economic and scientific experts. In comparison, the next round of carbon pricing debate under the Gillard government entailed limited contention over the emissions cap. And negotiations over industry compensation, whilst salient, were second to a fervent debate that emerged over the carbon costs passed on to consumers.

The process of mapping out key events also led me to significant policy reports and position statements from actors contesting the carbon price. Following up these documents was an iterative process. I then sorted through the documents to identify the core claims made in public statements and policy documents. Three types of claims were identified: claims about the distributive and political impacts of the carbon price; claims about the ideal or actual economic organisation under climate change; claims about other climate imaginaries.

Cultural political economy is used to investigate the normative dimensions of these claims and counter-claims. I deploy Jessop's (2010) concept of 'economic imaginaries' in order to interpret the process of meaning making in contests over climate policy. Expressions of an economic imaginary are moments within networked social practices in a given social field, institutional order, or wider social formation (Fairclough, 2003). Crucially, economic imaginaries are mutually constitutive of capitalist social organisation, its contradictions, crisis tendencies and dilemmas (for further discussion see chapter 2).

Contestation over carbon pricing is shaped by the material and symbolic power of agents engaged in political struggle. These agents articulate and reproduce competing economic imaginaries. Imaginaries are made up of a combination of genres (ways of acting and interacting e.g., Green Papers and parliamentary committees), discourses (representation of social practices and the material world from a particular social position e.g., market liberal, Christian socialism) and styles (ways of being and identity e.g., techno-managerialism, statesman, unionist) (Jessop, 2010: 344). I detail the genres, discourses and styles visible in political contestation over the Australian carbon pricing in chapters 7 and 8.

¹ The Australian Greens are a political party. The party is commonly known as 'the Greens'.

Discourse analysis is common in the literature on climate policy (e.g. Bäckstrand & Lövbrand, 2006; Bulkeley, 2000a, 2001; Detraz & Betsill, 2009). In this study, I have drawn upon insights established in the field. ‘Ecological modernisation’ has been identified as discursive pattern in climate politics. Ecological modernisation is an approach to environmental reforms social scientists have identified in Europe (Jänicke & Jacob, 2004), and increasingly elsewhere across the globe (Mol et al., 2009a).² It is a normative perspective on environmental problems, associated with a technocratic ethos of policy making (Bäckstrand & Lövbrand, 2006; Curran, 2011) and the view that issues like climate change can be addressed through incremental reforms within capitalist economies (Hajer, 1995). Political scientists have observed that technocratic ‘ecological modernist’ visions for emissions management have contributed to the turn to carbon markets (Bäckstrand & Lövbrand, 2006; Bailey et al., 2011).

Australian scholars have identified ecological modernisation as a discursive pattern in the national climate policy debate since the 1990s (Bulkeley, 2000a, 2001; Curran, 2009, 2011). Using a variety of policy, media and interview data these authors have established that Ecologically Sustainable Development (ESD) policy, as well as market-based renewable energy and climate policy packages have been described in political discourse as a means to reconcile environmental objectives with economic goals (Bulkeley, 2001). However, they have also traced the historical persistence of discourses articulated by members of parliament, industry and other public figures (e.g. in the media and in expert circles) that reinforce the opposite - a normative view that economic growth is jeopardised by climate policy due to the nation’s resource dependence (Christoff, 2005; G. Pearse, 2009).

In the existing literature, there are important observations about the tensions within climate policy discourse. Bulkeley (2001: 166) observes that the integration of environmental and economic goals in ESD policy proved impossible. Curran (2011) has argued that the Rudd government’s ecological modernisation agenda contradicted a parallel ‘climate justice’ discourse used by the former Prime Minister in the late 2000s. Christoff (2013) argues that ‘old’ and ‘new’ economic discourses have constrained the development of climate policy over time, marginalising other discourses in ethical, scientific and technological fields.

² Ecological modernisation theory originated in the 1980s in Europe and was a response to a debate about ‘state failure’ (Jänicke, 1990). The perceived failures of state environmental management led political scientists and practitioners to argue for market-based approaches and voluntary actions of decentralised actors as alternative solutions to environmental problems (Spaargaren & Mol, 2013).

The use of ecological modernisation discussed above is as a discourse (Hajer, 1995). There are longstanding debates about the analytic status of ecological modernisation (see Buttel, 2000). In order to make sense of the diversity of practices we might discern as ecological modernist, Christoff (1996) has offered the distinction between ‘strong’ and ‘weak’ ecological modernisation. McGee and Taplin (2006) have distinguished between ‘regulatory’ and ‘deregulatory’ ecological modernisation. There has been no space in this research project to explore the overlapping concerns and debates between ecological modernisation and neo-Marxist political economy. For reviews see (Mol et al., 2009b; York & Rosa, 2003).

These analyses of Australian climate politics usefully identify tensions and contradictions in policy debate, and much of my analysis supports the above author's conclusions. However, these studies are social constructivist interpretations that do not address the underlying political economy of climate policies and markets subject to emissions regulation. The cultural political economy approach I deploy allows me to advance our understanding of political discourse about carbon pricing by connecting these symbolic tensions with the contradictions of marketised climate governance (see chapter 2).

Semi-structured interviews: Between November 2013 and March 2014 I undertook 53 qualitative interviews. The group of interviewees included experts (11), NGO campaigners (24), senior NGO staff with Director or Chief Executive Officer (CEO) roles (8), unionists (2), public intellectuals (7), and an advertising professional. These categories are indicative only, and a number of overlapping skills and activities are part of the individuals I spoke to. For instance, many activists are also public intellectuals and vice versa, experts are frequently engaged as board members of NGOs, and so on. For the purposes of summarising the participants in this study, I have assigned categories based on what types of roles or activities our discussions focused on the most.

Sixteen of the interviewees were women, and the remaining 36 were men. And of that 16, all were campaigners or public intellectuals of some form. One was an expert engaged as an independent advisor to government and the NGO sector. Reflecting on the gender imbalance, I deliberately chose not to design it out of the study because elsewhere there is evidence suggesting that women are underrepresented in climate governance (Ergas & York, 2012; Hemmati & Röhr, 2009).

The fieldwork was approved by the University of New South Wales ethics committee (approval number 13039, see Appendix A for consent forms used). Interviewees were given the option of being anonymous or having their views attributed to them. For anonymous participants, I have been careful to only identify general characteristics e.g. ENGO campaigner, so as ensure individuals cannot be identified. Some participants asked to see the transcript and have a chance to consent to particular quotes used before publication. In these cases, I produced a summary document of the interview with selected quotes. Participants then replied consenting to publication of the material. Some people suggested edits to the material.

Interviews have played a significant role in clarifying and enhancing the document-based analysis. This is particularly so in regards to defining and interpreting key political events. Many of the decisions I have taken to emphasise particular moments in the policy negotiations, and broader political contest have come from the insights of people I spoke with. Data from discussions with experts and NGO campaigners engaged in the policy process were particularly helpful in checking and deepening the analysis of policy documents, key actors and political events. This kind of interviewing has been used to interpret the course of policy decisions in Australia (Bulkeley, 2000a, 2001), the EU (Braun, 2008; Skjaereth & Wettstad, 2008), and North America (Harrison, 2007).

The interviews have also provided data for my normative interpretation of policy debate (chapters 7 and 8). I chose to conduct interviews over a survey because interviews offer a chance for me to get a sense of the significance of particular circumstances for

interviewees (Sayer, 1992: 245). Interviewing is a less artificial form of communication. As a two-way mode of communication, the interview data are also a product of dialogue between the participant and I. The interview format allows for a mix of ‘standard’ questions to be asked whilst also allowing for interesting topics to be pursued further.

The conversations I had with participants were exploratory and semi-structured. The main topics in discussion were:

- personal motivations and involvement in policy processes, public debate, and/or political campaigns;
- climate change as a political problem;
- barriers and opportunities for change;
- different climate policy packages;
- shifts in contestation and political strategies since mid-2000s;
- the role of experts in political process;
- the power and composition of the environmental movement

After the interview, I made notes about key pieces of information and themes in the discussion. These were checked against the recording transcript. For a set of twenty interviews I wrote up ‘case studies’ of the interview data, which took the form of 4-6 page summaries of key quotes and themes. This helped me identify common themes, as well as differences across the set. The remaining interviews were analysed against these themes, and were in turn used to finesse the conclusions drawn from the interview data.

Semi-structured interviewing allowed me to gain an understanding of the social dimensions of climate policy debate and the broader field of contestation over climate change. The use of interviews follows suit with other research in the field, for instance, Newell (2000) drew on interviews with NGO staff and decision-makers in his analysis of NGO influence on the Kyoto Protocol process, and Australian studies of NGOs and activists have drawn on interviews as key means to trace NGO strategy and motivations (Hall & Taplin, 2007, 2008; Rosewarne et al., 2014).

Overall my interviews with experts, public intellectuals and campaigners provided insights into the practice of politics, whether they be through an individual’s reflections on their participation in policy negotiations, or the more personal dimensions of political action. These insights come out in the sections discussing the role of experts in chapters 4 and 5. Chapter 8 focuses in on activist motivations and shifting strategies in relation to, and beyond, the contest over carbon pricing.

Contributions of the thesis

This thesis combines policy critique with analysis of political contestation. Most often, the two foci are divorced from each other in the literature. For instance, other studies of carbon pricing in Australia fall into three main categories: 1) appraisals of the ETS and related policies by economics and law scholars; 2) critical accounts of carbon pricing by heterodox political economists or ecological economists; and 3) analyses of the political relations underpinning climate policy by political scientists.

Economic analysis of carbon pricing have detailed the design features of the ETS and related policies (Passey et al., 2008; Quiggin et al., 2014), industry compensation and the impact of lobbying (Pezzey et al., 2010), and they make proposals for what they consider to be good carbon price design principles (Jotzo, 2011; McKibbin & Wilcoxon, 2002). These studies provide valuable insights as substantive analyses of design and distributive impacts of carbon pricing, but do not address the dynamics of contestation in any theoretical or empirical depth.

There are a small number of critiques of the failures of the Australian ETS. These authors have detailed the flaws of the Australian scheme, for instance with regard to heavy industry compensation (Spash & Lo, 2011), unsound theoretical assumptions behind the ETS (Spash, 2010), rhetorical bias in the Garnaut review (Spies-Butcher, 2010), and flawed modelling in key policy documents (Perry et al., 2013). More generally, Rosewarne has linked the turn to market solutions for emissions management as a strategy to protect fossil fuel accumulation in Australia (Rosewarne, 2003, 2010). I draw upon these papers, seeking to add to the pool of knowledge through further analysis of the ETS legislation and carbon farming, and providing qualitative evidence of the contestation that has shaped the ETS and its repeal.

In comparison to political economy research, political scientists have studied climate policy with more attention to the detail of political contestation - the actors involved, their strategies for influence, and the role of norms and ideas in politics. For instance, political scientists have detailed Australia's climate policy as a reflection of the successive national government's recalcitrance in climate negotiations (Christoff, 2005; Crowley, 2010; Lawrence, 2009; McDonald, 2005).

There is important work on the political subordination of environmental goals to economic protection through the policy preference for 'no regrets' or least cost emissions policy (Bulkeley, 2000b; Bulkeley, 2001; Hamilton, 2001). More recent work on the politics of climate policy has focused on the influence of the fossil fuel industry lobbyists (Crowley, 2013b; Hamilton, 2007; G. Pearce, 2007), while others have emphasised the role of strategic decisions taken by political leaders (Bailey et al., 2012).

The limitation of political science analyses is that they do not consider the marketisation of climate policy as a significant dimension of developments in Australian climate politics. In a departure from the existing patterns of scholarship, I have brought together a political economic analysis with a detailed account of political contestation and the agents engaged in struggle. In effect my approach builds upon the strengths of political economists and political scientists working in the field.

The key theoretical and empirical contributions of this thesis are:

- A novel political economic analysis of the struggle over carbon pricing in contrast to existing work in the critical literature on carbon trading.
- An historical account of the development of marketised climate governance in Australia.
- A broad political economic critique of the Australian ETS and related climate policies, initiatives, and institutions.
- A detailed description of the key political developments, key agents, and issues surrounding carbon pricing reform in Australia between 2007 and 2014.

Limitations of the thesis

I work with a ‘middle range’ theoretical framework that is aimed at providing in-depth insights into a particular site of conflict over carbon pricing. I emphasise an historical specificity but also draw on a set of abstractions to describe the contradictions of capitalist social organisation. This begs the question, which of the phenomena I document in this thesis are attributable to trans-historical essences, which are specific to the period of interest, and which are transitory? (Sayer, 1995: 28). Taking a critical realist position on these questions, I do not think all phenomena are internally related to the circulation of capital. I do not, however, delve deeper into questions of ontology.

The representativeness of the study is a limitation. The national case of Australia is clearly unique on the basis of being the only example of an ETS being repealed by a national government. Throughout the discussion, I draw on existing studies of similar phenomena (e.g., documentations of conservative movements in the US), and note similarities and apparent differences along the way. However, without a focused comparative methodology, the significance of the Australian case can only be inferred.

A broader sample of interviewees would have enriched the study. The sample of interviewees is largely made up of campaigners and intellectuals from organisations associated with the political Left. Constraints on time limited the number of experts interviewed to 11. Some experts and ENGO campaigners were former Federal or State public servants now in advisory, research or campaign roles. But no active public servants, industry representatives or decision makers were interviewed. As a partial supplement to this, I have consulted secondary material e.g. Parliamentary records, media, corporate sector publications, and journalistic analysis.

The omission of interviews with industry representatives in this study has implications for the research findings. My analysis of corporate responses to different versions of climate policy in Australia points to a number of differences between industry groups on their strategies has changed over time (see chapters 4 and 5). However, the data is from the public record only, and does not give us insight into the motivations behind these shifts. In particular this study has not been able to offer gauge the nature of connections, and apparent divergences, between business preferences on climate policy and those expressed by conservative parliamentarians and public figures.

Existing studies of Australian business actors indicate that corporate participation in policy debate has important political and normative dimensions. Corporate strategy on climate policy is often particular to the national political context and has changed over time (see Kolk et al., 2008; Meckling, 2008; Pinkse & Kolk, 2009; Pinkse & Kolk, 2012). When speaking confidentially, corporate actors in the Australian emissions-intensive business sectors are likely to express a ‘desire for stronger, clearer and more strategic long-term government support’ rather than stark opposition to regulation (Mikler & Harrison, 2013: 414). There is also evidence that staff employed in corporate social responsibility enact moral identities, create the corporate myth of ‘ecological modernisation’, and juggle the contradictions between continued growth and climate action (see, Nyberg et al., 2013; Wright & Nyberg, 2014; Wright et al., 2012). These insights inform my interpretation of events, but they should be read in addition to this study for a full picture of corporate actors in Australian climate politics.

Structure of the thesis

The thesis is divided into three parts covering theory (I), the state and governance failure (II), and contestation and competing imaginaries (III) respectively.

Section	Chapter focus
I - <i>Theorising carbon pricing</i>	1 - Literature review 2 - Political economy of carbon pricing
II - <i>The state and governance failure</i>	3 - History of Australian climate policy 4 - Failure of the CPRS 5 - The rise and fall of a carbon price 6 - Case studies of governance failures
III - <i>Contestation and imaginaries</i>	7 - Populism and the techno-market imaginary 8 - Fossil fuelled future?

Chapter 1 reviews the literature on the politics of carbon pricing and outlines the key perspectives and themes emerging in the field. Carbon pricing politics are commonly understood as: policy incoherence; a result of strategic positioning and negotiation by state and non-state actors; heterogeneous relations and practices within and beyond formal political processes; and conflict over marketisation. I argue for a political economy approach to theorising the conflict over carbon pricing on the basis that it provides analytic tools to consider the inexorable links between market regulation, political contestation, and the contradictory dynamics of capitalist social organisation.

Chapter 2 outlines my framework for analysis. I reflect on the ascendance of marketised climate governance as an organising logic for climate mitigation and argue that it does not resolve capitalism's contradictions. Rather it rescales regulation and creates new sites of contestation. I also emphasise the role of the state in marketised climate governance and the distributive dilemmas that carbon pricing produces, in particular the potentially regressive effects in domestic economies. Importantly, I contend that the political and distributive effects of carbon pricing cannot be asserted a priori; they need to be discovered empirically.

Chapter 3 introduces climate policy developments in Australia since the late 1980s. I demonstrate that all variants of marketised climate policy deployed or debated by the Australian state can broadly be defined as 'fair weather policies' based on a weak definition of national climate responsibility, designed to displace the abatement task spatially and/or temporally, and to serve a protectionist agenda for narrowly defined economic interests in energy-intensive sectors. However, recent developments in the contest over climate policy illustrate that this pattern has been disrupted, and that new legitimisation issues are in play.

Chapter 4 details the failure of the CPRS in terms of my framework. The analysis highlights strategic errors in parliament as well as industry influence over the distributive effects of the ETS, and a high degree of dissensus among experts and civil society organisations engaged in the process of designing and deciding upon a carbon price. Overall, the failure of the CPRS was both substantive and socio-political. Substantive in the sense that it was not designed in a manner that would not have achieved a least cost, equitable outcome; and socio-political because the ALP government was unable to legitimate the scheme within civil society.

Chapter 5 documents the rise and fall of the carbon price. Looking at the shifting positions of industry and conservative opponents, I observe that marketised climate policy has not attracted a broad coalition of support. The CEF legislative package was a pragmatic deal made possible by the minority government. It reflected technocratic ideals of good climate governance, but was instituted on unstable political ground. Even after the ETS was legislated, political divisions heightened and over time the concept of carbon pricing was been challenged.

Chapter 6 analyses the political economy of carbon market governance in Australia and related carbon offset schemes in the Asia-Pacific. Four case studies are used to introduce key limitations associated with the fleeting attempt at pricing greenhouse gas emissions, focusing in on the governance arrangements for carbon pricing between 2012 and 2014. The case studies illustrate major problems with land carbon sequestration schemes. Meanwhile, pre-existing failures of governance in energy sectors are unchanged, and even exacerbated in the case of electricity prices.

Chapter 7 looks at the failure of the techno-market imaginary in 2008 and 2009 during the Rudd government. There was a tension between moral concern about climate change expressed by Rudd and the style of marketised reform the Labor government embarked upon. I highlight the limited political purchase of technocratic carbon governance, which in turn became the target of conservative movement mobilisations. This period also saw the brief rise of a climate movement with limited capacity to force a break from politics as usual.

Chapter 8 compares the conservative counter movement and environmental movement in light of the carbon price debate, and new directions in energy politics. Conservatives in Australia have sought to delegitimise carbon pricing with a discourse of protection. The political Right in Australia has also sought to express its ongoing cultural allegiance with the resource sector. The second half of the chapter reports on the directions of social movement strategy since 2010. I provide evidence that many environmentalists have vacated the carbon price debate. Energy campaigns have been deepened and it seems that a broader 'energy justice' agenda is being forged. New strategic dilemmas are visible in the field.

A note on terminology

I use the terms carbon trading and emissions trading interchangeably, though strictly speaking they mean different things. Carbon is shorthand for the tradable entity, equivalent tonnes of carbon dioxide (tCO₂e). In practice, emissions trading usually involves a variety of greenhouse gases from different sectors and geographic locations.

During the discussion I use the term carbon price, which is an overarching term for policy that assigns a price to greenhouse gas emissions. Carbon pricing includes emissions trading and carbon taxation. When talking about the theory and practice of emissions regulation, I use carbon pricing to refer to general characteristics shared by carbon taxation and carbon trading (see chapter 1). When the differences between the two are relevant to discussion of policy design, or when existing climate policies or law are referred to, I use the terms ETS, carbon offsets, and carbon tax. When discussing political debates, I often use the term carbon price in order to reflect the terminology used by political actors. There are other times, when I highlight the political use of differences between types of carbon pricing (carbon taxation, international carbon trading, and carbon offsetting).

In parliamentary debate and broader public contestation in Australia, differences between carbon taxation and carbon trading have been politicised. The Australian ETS was designed with a fixed carbon price (an effective carbon tax) for the first 3 years of operation before international trading was to begin. Conservative opponents argued that the scheme was a tax. One of the key points I make in this work is that the notion of carbon pricing in general has been politically undermined by conservative opponents. At different moments critics target either an ETS, or a tax, but in reality it seems the idea of ‘putting a price on carbon’ (the phrase commonly used by ministers in the Gillard government) has been put into question. And on the other side of the debate so-to-speak, climate experts and activists tend to hold a mix of views on carbon pricing. For instance, experts differ on the degree to which they emphasise the advantages of carbon trading or taxation (see chapters 1 and 4), and it is common for activists to support carbon taxation but oppose carbon trading.

This juggle with terminology is linked to an important analytic point that will be made throughout the thesis. There are some general features of carbon pricing that have been politically contested, for instance, the potential regressive impacts of Australia’s ETS. This is an issue of policy design that comes up whether the form of carbon price is a tax, an ETS, or in a hybrid of the two. We need to also tease out important variances in the institutional arrangements involved with ETS and tax policies.

Different forms of carbon pricing produce unique material effects, which in turn shapes political conflict. For instance, international carbon offsets create new sites of contestation. The turn to land carbon abatement projects in both the former Australian ETS and the current government’s Direct Action Plan (see chapter 6). In my analysis of the conflict over international carbon offsetting and ‘carbon farming’ in Australia I illustrate that both the ETS and Direct Action displace responsibility for emissions reductions in energy-intensive industries to other sectors. Interestingly, issues surrounding international carbon trade and the potential purchase of Kyoto offsets have been subject to ongoing debate, highlighting unresolved questions about where carbon abatement should come from (chapter 8).

II *Theorising carbon pricing*

1 Carbon pricing and political contestation

A literature review

Introduction

In just about all locations where carbon pricing policy has been debated, it has attracted criticisms from elected politicians, policymakers, public intellectuals, think tanks, NGOs, unions and other advocacy groups. Opposition has come from many corners, from environmentalists who have argued that carbon pricing was a source of ‘climate injustice’, to conservatives sceptical of both the climate threat and the feasibility of carbon management.

Patterns of decision making, and *non*-decision making, about carbon pricing policies vary. International cooperation over climate mitigation has stagnated, and whilst there are new carbon pricing schemes being planned, the centre of the carbon market is in trouble. There are major problems in the EU ETS (Branger et al., 2015), and Clean Development Mechanism infrastructure has been slowly demobilising (NewClimate Institute, 2015; World Bank, 2014: 16). To this we can add a broad range of ‘technical difficulties’ in arriving at reliable measures and techniques for the carbon cycle’s commodification. The complications and resistances to effective and legitimate carbon pricing has been diverse to say the least.

There is now a broad social science literature on carbon pricing, and understandably, much of it attends either directly or indirectly to the political dynamics that constitute ‘marketised’ climate policy. A number of disciplines have developed a strong subfield of discussion about carbon pricing: economics, law, political science, sociology, political economy, human geography, cultural studies and more. Broad areas of focus include analyses of: the design and impacts of carbon pricing (e.g. Grubb, 1998; Hepburn, 2007); the policy process (e.g. Braun, 2008; Voß, 2007); actor coalitions and

interest groups (e.g. Levy & Egan, 2003; Meckling, 2011a; Newell & Paterson, 2010); the socio-technical and socio-ecological relations constituting carbon market creations (e.g. Bumpus, 2011; MacKenzie, 2009); and the flaws of carbon markets in theory and practice (e.g. Lohmann, 2008; Spash, 2010).

This chapter begins with an introduction to carbon pricing. It gives a brief history of the economic theory behind it, the debates about conceptual boundaries of a ‘market’ approach to environmental problems, and a brief outline of key decisions and sites where carbon pricing is practiced. It then provides a review of the literature on carbon pricing, drawing out themes from works that offer perspectives on the character of political contestation over market-based climate policy. The remaining sections are a narrative literature review, aimed at producing insights into the key insights and themes. I outline four themes in the depiction of carbon pricing politics in the literature. These are, carbon pricing politics as: 1) policy incoherence; 2) a result of ideational diffusion, strategic positioning and negotiation by state and non-state actors; 3) heterogeneous relations and practices within and beyond formal political processes; and 4) conflict over marketisation.

The types of questions asked by scholars in the field can be summarised as: Who is engaged in the ascendance of carbon pricing? How? Why? With what effects? Should this style of climate policy continue to be pursued? In the course of this review it will become apparent that all scholars work with versions of these questions.

Experts of various kinds (mostly economists) have been vocal in getting across their view that market-based climate policy is the most efficient and effective option for reform. Thus a sense of their political outlook can be gauged implicitly, and occasionally it is shared freely. Meanwhile political scientists direct attention to who engages and with what political strategies, in order to explain how carbon pricing decisions come to be made. Scholars working with poststructural ideas broaden our attention to ‘local’ techniques and practices of assembling carbon markets, explicitly preferring questions of how carbon markets come into being, over normative assessments of why and whether they should be implemented. Finally, critical scholars begin with the proposition that the how and why of carbon pricing has something to do with the dynamics of capitalism. Here, political contestation is understood as either a result of, or directed toward marketisation.

Before setting out, a final note is needed on the politics of knowledge in this field and my location in the discussion. I work with a relatively expansive understanding of the political as relations between the state and society; human-nature relations are also political. I am concerned with historical and contemporary power inequalities within and between social groups amidst struggles over ‘nature’. It is not surprising then that waging a normative Left critique of carbon pricing is the orientation I will pursue further. This is not, however, to say that I do not appreciate the valuable insights from other perspectives outlined here. Nor am I suggesting that any of the perspectives in the field are from the political Right (see chapter 8). In fact, there are important challenges to existing modes of Left critique from the other three styles of scholarship, particularly scholars working with poststructural theories. My conclusion reflects on the task of developing a political economy of carbon pricing that is sufficiently modest and accurate in its claims.

Carbon pricing: Theory and practice

The theoretical basis for carbon pricing comes from environmental economics, which is a subfield in economics, analysing ecological degradation and pollution as ‘externalities’ not reflected in the price of goods exchanged in otherwise efficient markets. To deal with these externalities, new methods of environmental valuation and market-based solutions to protect the environment have been introduced across the world (Markandya & Barbier, 2013).

Externalities

The intellectual origins of carbon pricing trace back to the beginnings of welfare economics. Arthur Cecil Pigou developed Alfred Marshall’s concept of externalities, advocating for a variety of measures including taxes, subsidies and regulation to address collective social and environmental costs of production. Pigou (1932) argued in the *Economics of Welfare* that industrialists pursue their marginal private interest. When the marginal social interest differs from the marginal private interest producing negative social outcomes, the industrialist has no incentive to internalise the cost of the marginal social cost. In reference to industrial pollution, Pigou recommended placing a tax on the activities of offending producers in order to shift the quantity of pollution to the socially optimal level. Pigou’s work became foundational for welfare economics and what would become environmental economics.

Thirty years later Ronald Coase (1960: 41) challenged key elements of Pigovian analysis. He argued that optimal economic allocation could occur through arbitrage between actors if two conditions were met: clearly defined property rights and zero transactions costs. Coase’s claim was theoretical only, and did not address how or whether the result of collective bargaining between agents would align with necessary environmental limits. In the next decade, further intellectual work by North American economists developed and modified the principle to include a role for governments in a new practice of environmental market creation (Crocker, 1971; Dales, 1968a, b; Montgomery, 1972; Tietenberg, 1985).

Carbon pricing in the Coasian tradition is purported to fold the negative market externality back into the market via the assignment of property rights to greenhouse emissions. In order to ‘internalize’ the unacknowledged costs of emissions, these economists argued that the changed cost structure of production generated by trade will incentivise changes in market behaviour. The externality is measured as a common metric, usually equivalent tonnes of carbon dioxide (tCO₂-e). Externalities are managed differently depending on the policy type.

Carbon pricing is a broad term referring to different types of mechanisms. Aldy and Stavins define a number of different ways to price carbon: carbon taxes, cap-and-trade, emission reduction credits, clean energy standards or targets, and fossil fuel subsidy reform (Aldy & Stavins, 2012). Carbon taxes entail a government assigning a cost per tCO₂-e or to the carbon content of fossil fuels combusted. Cap-and-trade schemes involve creation of a market in tradeable emissions credits. Clean energy standards are market electricity mandates that include tradable renewable energy credits. Finally, phasing out fossil fuel subsidies seeks to remove ‘market distortions’ and allow carbon pricing to work effectively.

The first four options for carbon pricing are about addressing market failure, and subsidy removal is about addressing state failure (Aldy & Stavins, 2012: 161). In policy practice national carbon trading schemes have become ‘flagship’ policies (Passey et al., 2012) against which other policies for emissions reduction are conceived as complementary. For this reason and others that will become clear, I focus only on carbon taxation and carbon trading. However, the existence of these other types of ‘carbon pricing’ are relevant to the politics of carbon pricing, particularly in Australia where the repeal of carbon pricing has raised questions about whether and what alternative policies mechanisms should be pursued.

Carbon taxation and carbon trading are the two main policy types which figure in climate policy discussions. Carbon taxes rely on governments to set a price on emissions at optimum levels over time. In order to meet efficiency and cost-effectiveness goals, the carbon price would have to be applied across the whole economy and be set at a level equal to the marginal benefits of emission reduction, represented by estimates of the ‘social cost’ of carbon. No quantitative limit on emissions is set, and governments must go through a trial and error process of setting the price.

Economists often argue that carbon trading ensures environmental integrity better than carbon taxation. The ‘cap’ theoretically sets the emissions limit. A cap-and-trade scheme is understood as a more effective means to create scarcity and efficient allocation of emissions rights. Efficiency (optimal use of scarce resources) comes from permits for CO₂e being tradable. In perfectly functioning markets, polluting firms facing high costs for emissions reduction may buy excess permits from firms with low costs, which in turn profit from sale of their excess permits. This arbitrage (the bids and offers between buyers and sellers) is theorised to produce net gains for all involved (‘welfare’) and create an equilibrium carbon price at the margin, that is, the ‘optimal level of the externality’ where marginal net benefits enjoyed by polluting firms are equal to marginal external costs to society (Pearce & Turner, 1990: 61-62).

As a counterpoint, some economists argue that carbon taxes are comparatively simple to administrate. They do not involve the complex task of creating the institutions necessary for regulating new sets of commodities (Andrew et al., 2010; Metcalf, 2009). Others note the advantage of emissions trading is undermined in conditions when there is uncertainty about the marginal costs of supplying a good (in this case a ‘safe’ level of greenhouse gas emissions) (Hepburn, 2006).

These different arguments about policy types and workings of carbon pricing are important. They illustrate diversity within the economics profession. And for the purpose of this study, the various distinctions between advising experts on ideal policy design have been highly politicised. In future chapters, I discuss the political use, and misuse of the differences between carbon taxation versus carbon trading on all sides of political contestation.

Defining differences: Traditional and market regulation

There are two other important perspectives on the rationale for carbon pricing: one that argues that carbon taxation and emissions trading is not a true ‘free market’ approach

(Anderson & Leal, 1992), and another perspective that the differences between market mechanisms and traditional regulation are embellished (Driesen, 1998). These different views about pricing carbon in the literature highlight the role of political ideology in economic thinking about the environment.

Advocates of the 'free market' approach to environmental problems contest the viability of traditional regulation, pollution taxation and trading alike. This perspective has been developed by economists, legal experts, and political scientists attached to the Property and Environment Research Centre (PERC) in the US. In a seminal book titled *Free Market Environmentalism*, Anderson and Leal (2001) argue that pollution trading is market-like, but not a complete market because it is in need of political control (p. 130). Pricing pollution through trading or taxation schemes requires calculation and political determination of appropriate tax rates or pollution levels. In their realist view of government and society, the irrational nature of politics compromises regulatory efforts.

Anderson and Leal (1992; 2001) construct free market environmentalism (FME) as a counterpoint to 'political environmentalism', which they associate with a 'scientific management' approach to environmental regulation. They summarise the scientific management paradigm as based on the assumption costs and benefits are known by dispassionate 'experts' whose decision making will maximize welfare so long as the appropriate science and policy model is applied (Anderson & Leal, 1992: 299). Sceptical of this, FME advocates argue that information is rarely complete and not exclusively possessed by experts. Rather, information is 'time- and place specific rather than general and concentrated in the hands of experts' (Anderson & Leal, 2001: 5).

They further argue that regulatory and bureaucratic capture is a hindrance to political environmentalism.

Agencies and firms are subject to regulation lobby for exception or protection under the law, often at the expense of the environment and their competitors. Bureaucrats seize budgetary and managerial control. Established private companies are exempted from new regulations. Bureaucratic and regulatory capture is costly, inefficient, ineffective, and unpopular. Bureaucracy also lacks a framework for entrepreneurial vision and achievement that can take environmental quality to higher levels without sacrificing economic growth. (Anderson & Leal, 2015: 7)

The model of human behaviour FME advocates work with is in the tradition of political realism. Free market environmentalism 'views man (sic) as self-interested', a characteristic of human nature that is unlikely to be changed by environmental ethics. Thus, 'good resource stewardship depends on how well social institutions harness self-interest through individual incentives' (Anderson & Leal, 2001: 5).

FME is a more orthodox interpretation of Coase compared to the implied political support for state regulation from most environmental economists. FME is effectively an alternate view of the appropriate role of the state in managing markets for environmental 'goods' and 'bads'; it eschews any sustained involvement of the state in the market (Eckersley, 1993; Moran et al., 1991). Free market environmentalists oppose state sanctioned limits on environmental property rights (for instance, carbon rights). Rather, they assume spontaneous private contracting will deliver efficient use of resources and value to environmental goods. As an alternative to traditional regulation

(e.g. the US Clean Air Act of 1977) and pollution trading, FME advocates argue that common law is an effective way to protect property rights against invasion from pollutants, for instance court cases for damages caused by pollution.

There are flaws in this thinking, from its fixed assumptions about human nature, to the undeveloped idea that climate change can be resolved without federal legal statutes. It is telling that the new book *Free Market Environmentalism for the Next Generation* (Anderson & Leal, 2015) does not include a chapter on climate change or emissions markets. Their approach is somewhat easier to argue for ‘local’ issues such as fishery and land management. What is most important about FME for this research into the politics of marketised climate governance is that FME is a pessimistic economic perspective on carbon pricing. It gives us an insight into conservative intellectual thinking on climate change. In chapter 8, I will demonstrate the links between this kind of scholarship and conservative opponents to the Australian ETS. More generally, FME clarifies that the majority of economists and experts advocating market mechanisms like carbon trading or carbon taxation are not doing so from a ‘free market’ perspective.

In a different direction, environmental law expert David Driesen (1998) has taken issue with the analytic and political construction of market-based emissions law and regulation. He argues against the common tendency for economists and other experts to embellish market versus command policy mechanisms. Driesen holds that economists and legal experts frequently distinguish between market mechanisms over ‘command and control’ policies. However, they have done so without a theory of economic incentives. He argues that carbon trading and carbon taxation are not incentives wholly distinct from traditional regulation in terms of their effects on firm behaviour.

Driesen contends that distinctions between ‘market’ and ‘command’ mechanisms are unhelpful (Driesen, 1998). The political case for market mechanisms is frequently made on the basis of a conceptual dichotomy between command-and-control policies (rules that mandate how pollution should be limited) and policies that institute economic incentives. As we will see below, this distinction has played a key role in the symbolic construction of marketised climate policy, and ultimately the political decision to institute carbon taxes and carbon trading schemes as central features of international and national climate change reforms since the 1990s.

Driesen points out that proponents of economic incentives argue that command regulations are rigid instruments that impose unnecessarily high compliance costs because the regulator specifies technologies and methods for pollution control (p. 297). In practice however, US environmental law more commonly imposes environmental or performance standards by statute; true command-and-control legislation is the exception. Further, legislation instituting technology rules are not intrinsically stringent, rather stringency comes from the decisions taken about what is achievable with a given technology. In effect Driesen is reminding us that rigidity is not intrinsic to traditional forms of environmental regulation. Innovation can be instigated by traditional regulation that is set at a suitably demanding level (p. 304). Where inefficiencies come in is in the perpetual administrative, and parliamentary decisions needed to ensure the instrument functions over time (pp. 305-307). However, this is not unique to any particular style of environmental law. Ongoing political decision-making (and therefore contestation) is a fundamental part of both traditional and market mechanisms.

There are differences however, in regulatory logic and patterns of policy design. One source of so-called rigidity in traditional regulation is the ‘spatial specificity’ that comes from traditional regulation that stipulates a source of pollution that should be regulated e.g. a set of power stations. Spatial specificity makes environmental regulation enforceable, and non-compliance becomes an issue when there is a lack of specificity (p. 304). In the case of carbon trading, spatial specificity is relaxed to a higher degree (Fankhauser & Hepburn, 2010b). The most obvious example of this, is the use of carbon offsets derived from carbon sequestration projects in different industries and nations, which are then sold in to cap-and-trade schemes.

Carbon trading and carbon taxation both share the problem of relying on ongoing regulation and re-regulation by the parliament and administering agencies. Further, there is good cause to conceptualise carbon trading, carbon taxation *and* traditional regulation as putting a price on carbon (Driesen, 2014a). A quantitative reduction obligation requires emitting firms to spend money on pollution reduction. The cost of pollution reduction effectively puts a price on carbon for the producer (p. 709).

Most importantly, these observations point to a number of erroneous claims about the relative efficiency of emissions trading. Emissions trading is conceptualised as efficient due to the tradeability of permits and offsets. However, cost savings may be coming from evasion of compliance (Driesen, 1998: 319-320). And in practice, emissions trading can be designed in a way that imposes a net cost on the public purse (Rosewarne, 2010).

Driesen argues against the ‘quasi-ideological’ use of a command-and-control / incentive dichotomy in the literature and in policy circles. This dichotomous thinking paints a ‘misleading picture of a wholly autonomous market not dependent on government decision-making’ (Driesen, 2014a: 714). In calling for a more honest debate about the limits of carbon pricing (Driesen, 2014b), Driesen’s purpose is clearly different to FME advocates. Rather, he seeks to inform good public policy debate among legal and economic experts, who are all in agreement that government and bureaucracies should play a role in managing the process of emissions reduction.

A key insight Driesen gives us is that laws and regulations instituting carbon trading markets and carbon taxes are not unique in creating a price signal. More traditional forms of regulation also effectively create price signals. The following sections, as well as chapter 3 on the history of Australian climate policy, further illustrate that the embellished analytic distinction between traditional regulation and market mechanisms is a political phenomenon associated with the interests that have come together in favour of marketised climate governance.

Learning by doing

Carbon taxes were first introduced in the 1990s. There are currently 12 carbon taxes in operation, mostly in Northern and Western Europe.³ Seven carbon taxes were installed

³ The first European nations to introduce a carbon tax on fossil fuels was Finland (1990), followed by Norway (1991), Sweden (1991), Denmark (1992) and the Netherlands (1992), Slovenia (1991), and Italy

in Europe in the 1990s. The remaining five have been introduced since 2008. These recent taxes are designed as additions to, or part of, plans for emissions trading. European countries such as France and Ireland have applied their taxes to emissions not regulated under the EU ETS. In Mexico, the carbon tax precedes a potential ETS, and allows for offset credit purchases.

From the 1990s to 2000s, the process of designing and implementing carbon markets has taken up more political space so-to-speak. The institution of carbon markets occurs through domestic and international law. The emergent pattern in carbon markets is legislation for cap-and-trade schemes in developed nations, linked to carbon offset programs in developing countries. Carbon rights are considered either permits to emit (the right to emit a defined unit of greenhouse gases) or rights to emissions reductions (units representing emissions avoided or stored in 'sinks').

Offset credits can be sold to firms with obligations to reduce their emissions in industries regulated by cap-and-trade. Rules that permit linkage to carbon offsets are central to the 'efficient' distribution of emissions abatement costs. Put another way, offsets contribute to the 'flexibility' in terms of where reductions will be undertaken (Fankhauser & Hepburn, 2010b). Rules for temporal displacement of abatement costs through rules that allow banking and borrowing permits are a second major source of flexibility (Fankhauser & Hepburn, 2010a).

Both international emissions trading and carbon offsets are encoded in the Kyoto Protocol. Article 17 of the Protocol specified emissions trading as a means for Annex B nations to reach their emissions reduction targets (an average of 5.2% below 1990 levels). The Protocol and new agencies under the UNFCCC institutionalised North-South carbon offsetting through the Clean Development Mechanism (CDM) and Joint Implementation (JI) (Articles 6 and 12, UNFCCC, 1997). The CDM was originally conceived of as a fund for sustainable development, but the model took on market dimensions in the process of negotiations. Certified Emissions Reductions (CERs) from CDM projects can be sold to firms or governments and counted toward an Annex B nation's mitigation targets, as can Emissions Reduction Units (ERUs) from JI.

Carbon markets and offset programs have expanded worldwide. Seventeen carbon trading schemes cover approximately 8% of global emissions.⁴ In 2005, the EU ETS

(1999). Carbon taxes have been instituted more recently in Switzerland (2008), Iceland (2010), Ireland (2010), France (2013), and the UK (2013, a change to a previous tax installed in 2000). Outside Europe, British Columbia in Canada (2008), and Mexico (2014) have installed a carbon taxes. South Africa, Brazil, Chile, Oregon USA, and the Republic of North Korea are all considering carbon taxes (World Bank, 2014: 77-84).

⁴ The earliest compliance greenhouse gas emissions trading schemes were the Danish ETS (2000-2004), the UK ETS (2003-2009), the Chicago Climate Exchange (CCX) (2003-2010), and the NSW Greenhouse Gas Abatement Scheme (GGAS) (2003-2012). All have been removed in favour of larger schemes, except the CCX which transformed into an offsets registry in 2011.

The 17 schemes include national schemes in Switzerland (2008-), New Zealand (2008-), Kazakhstan (2013), and sub-national schemes two in Canada (Alberta, 2007 and Québec, 2013), two in the US (RGGI, 2007 and California, 2012), three in Japan (Tokyo, 2010 and Saitama and Kyoto, 2011), and

became the first regional carbon market, and is still the most significant to this date. There are 18 carbon trading schemes in operation. Emissions trading is under discussion in the following jurisdictions: Brazil, Chile, Costa Rica, Mexico, North American Pacific Coast, Russia, Thailand, Turkey, and Ukraine. Over 2 billion CERs have been approved by the UN CDM registry. There are scores of trial REDD offset projects across Latin America, Asia, and Africa, countless capacity building programs at national and regional levels for REDD participation, and an ongoing discussion about whether and how to institute REDD and other new market mechanisms through the UNFCCC. Finally, the voluntary carbon market selling offset products direct to consumers and firms which runs parallel to compliance markets (Bayon et al., 2007).

The social and political economic transformations associated with carbon trading are multiple. Carbon markets are constructed by a transnational network of economic agents (economists, scientists, engineers, policy advisors, parliamentarians etc.) and complex technologies (computers, global positioning system satellites, factories, gasses, accounting systems, etc.). New actors attracted to the trade in carbon are entering into contracts with communities in the global South.⁵ In the process new values, rights, responsibilities and liabilities are defined.

Crucially, there is no single integrated carbon market with broad, global coverage. Existing emissions trading schemes have not grown at the rates analysts hoped for. Trade volumes are down, and regulatory uncertainty has reigned since the failure of the COP15 at Copenhagen (World Bank, 2013, 2014). A number of countries drew up plans for carbon pricing in the 2000s, but have shelved them. And in Australia an ETS was repealed. However, there are a number of new proposals for emissions trading and taxes emerging (see figure 1.1). China is the notable addition to the number of nations with plans to implement a national ETS. In 2013, China launched pilot emissions trading schemes in seven cities and provinces, and plans to introduce a national ETS in 2016.

There have been major controversies over carbon trading in numerous jurisdictions. These include: revelations that windfall profits have been transferred to polluting firms in the EU (Branger et al., 2015; Point Carbon, 2008) and Australia (CME, 2013; Wood & Edis, 2011); reviews of industrial gas CDM offsetting that revealed no emissions abatement (EIA, 2013; Wara, 2007); allegations of corrupt conduct of some REDD project developers (Bodenham & Cubby, 2011; Cubby & Wilkinson, 2009); and prosecution of traders allegedly engaged in ‘carousel’ fraud in the EU (Hübner & Gould, 2015).

seven pilot ETS schemes in China (Guangdong, Shanghai, Tianjin, Beijing, Shenzhen, 2013 and Chongqing and Hubei, 2014).

⁵ I use the term global before South here to move past the state-centric definition of inequality and signal the complex geography of disadvantage. Placing the term ‘global’ before North and South operates as a qualification of the common distinction between the industrialised ‘developed’ North and less developed ‘South’. It recognises that within both Northern and Southern nations there are disparities of wealth between elite social classes and marginal groups. In effect, the North is in the South; and the South is in the North.

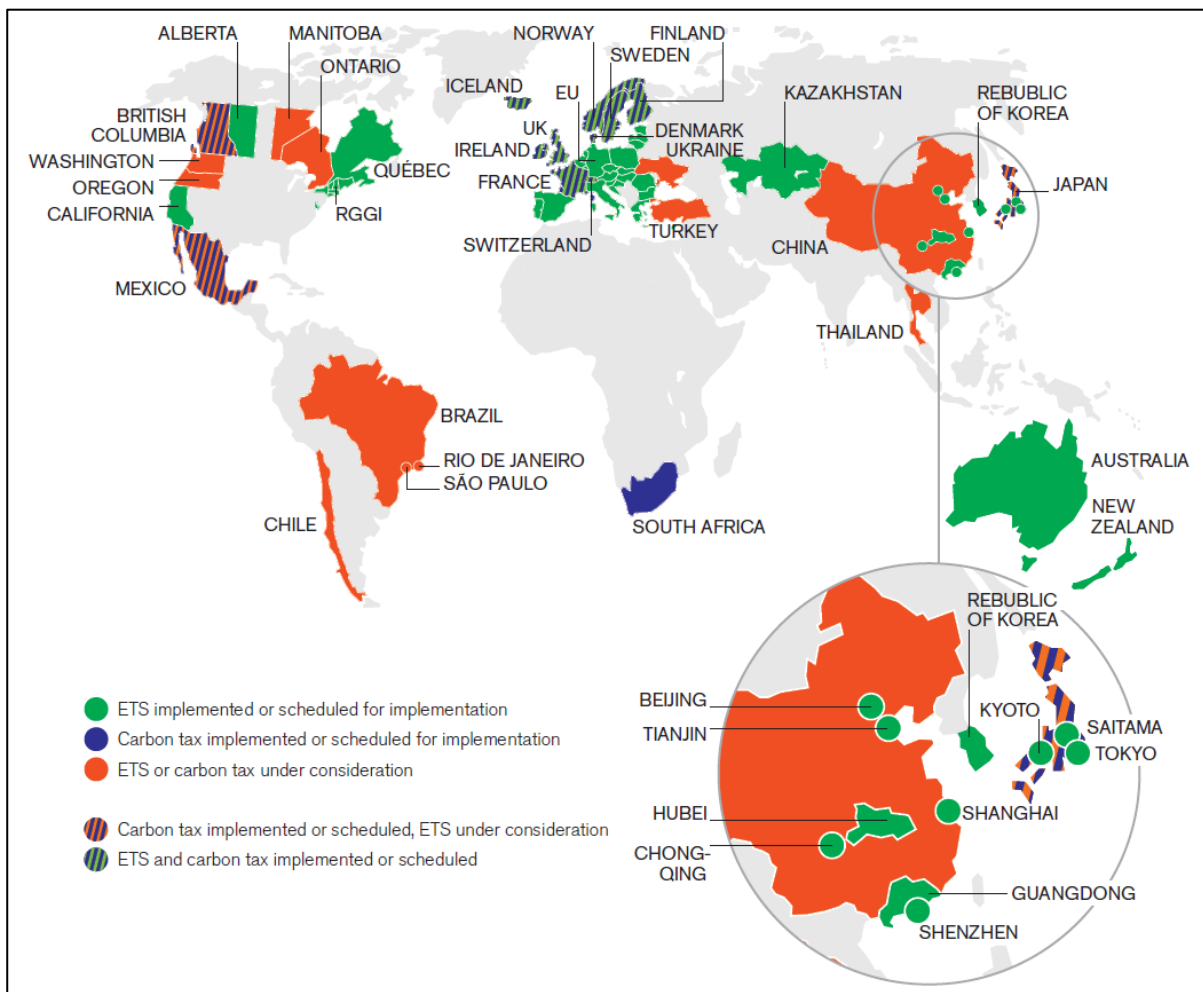


Figure 1.1 Summary map of existing, emerging, and potential regional, national and sub-national carbon pricing schemes (ETS and tax)

Source: (World Bank, 2014: 16)

Controversy and contestation is not unique to carbon pricing. However, the stakes of climate change and new constellation of social forces surrounding this phenomena need to be explained and understood. From here, I turn to scholarship about the politics of carbon pricing in detail.

The politics of carbon pricing as ..

There is currently quite a broad discussion about the politics of carbon pricing in academic literature across the social sciences and humanities. The following sections outline key themes in the portrayal of political contestation associated with carbon pricing. Carbon pricing politics are presented by authors in different ways. I identify four main depictions of carbon pricing politics: as policy incoherence; as diffusion, strategic positioning and negotiation; as heterogeneous relations; and as conflict over marketisation. These themes are discussed with regard to disciplinary orientations and the broader objectives of writers in the field below. Table 1.1 offers a summary of the

key foci of studies in relation to the most common theory of carbon pricing politics evident in the scholarship.

One note before proceeding, these themes are not intended as sharp categorical divisions. There are of course exceptions within and across these ideal types. For instance, studies of the political process can also operate as a critique of carbon pricing (e.g. Bailey, 2007). Philosophical appraisals of the ethics of carbon pricing can take the form of policy evaluation as well as critiques of commodification (e.g. Aldred, 2012; Okereke & Dooley, 2010), and a focus on heterogeneous relations can come with a normative political position (e.g. Lohmann, 2009b).

.. policy incoherence

The earliest and constantly expanding literature that addresses the politics of carbon pricing is produced by economists, lawyers, and other experts engaged in the design and implementation of carbon markets. Since the 1970s and 1980s experts in these fields have been proactive reformers, arguing the intellectual and political case for market-based environmental policy in North America and Europe. They have insisted market mechanisms are a more efficient alternative to ‘command and control’ regulation, such as installing technology-based environmental standards, or legislative bans on harmful substances and practices. The purpose of studies undertaken by this group is often to argue a view on how emissions trading schemes should be designed, or to analyse carbon price design features and effects of schemes once they are instituted. It is common for reports to be oriented toward decision makers in some way, or a part of a formal advisory process.

Economic, legal and policy experts, particularly those engaged as advisors to state and intergovernmental bodies, frequently address political dynamics in their publications. Experts often make informal commentary about the political purposes that market-based policy (and their advice) serves. For instance, there are illustrative writings in the report from Project 88, a series of meetings in the US discussing the range of market-based mechanisms for climate mitigation (Centre for Science and International Affairs, 1992; Wirth & Stavins, 1988). Project 88 was initiated by US economist Robert Stavins and two US Senators. The project assisted in building the case for sulphur dioxide (SO₂) trading in California under the *Clean Air Act* 1990. SO₂ trading became the basis for the US’ successful campaign to include of emissions trading in the 1997 Kyoto Protocol to the UNFCCC.

The Project 88 report illustrates important political features of carbon pricing design. A number of expert participants in the Project argued for a strategic focus on carbon trading over carbon taxation: ‘a tradable permit system which appears costless to the public may be more politically palatable to Congress than a new tax on carbon’ (Stavins, 1992: 7). In response, others emphasised that these differences should not overshadow the contrast between command-and-control policies and market-based policies (p. 7). They suggest that an international system of tradable permits could avoid ‘politically unpalatable’ allocations of emissions reduction burdens (p. 9), and that demonstration projects for forestry offsets in Latin America should be used in developing the system (p. 13).

Table 1.1 Understandings of politics in the carbon pricing literature

Focus	Disciplines	Politics of carbon pricing as ..
<i>Design and evaluation</i>	Economics Law Political science Philosophy	.. policy incoherence ‘In many (and some would argue all) circumstances, political economy factors dominate over pure economic rationale.’ (Grubb, 2013: 229) ‘Political reality demands that other goals, which in practice are not necessarily consistent with each other, also play a part in practical design and implementation.’ (Pearce, 2006: 150)
		.. strategic positioning and negotiation ‘Tradable permit markets are political instruments as much as they are economic ones’ (Sovacool, 2011: 582). carbon trading is a policy instrument that ‘can partially be understood as a strategy of big emitters to prevent the introduction of carbon taxes’ (Meckling, 2011a: 49) ‘carbon commodifying policy instruments’ are a ‘neo-Gramscian passive revolution’ (Matt & Okereke, 2014: 125)
<i>Socio-technical / socio-ecological relations</i>	Cultural studies Geography Sociology Political science	.. heterogeneous relations and practices ‘..a heterogeneous assemblage of mechanisms, techniques and knowledges by which the natural and social world is represented, categorised and ordered.’ (Paterson & Stripple, 2012: 566) assembling carbon markets involves ‘a joint process of politicization-economization-scientification..’ (Callon, 2009: 545).
<i>Critiques</i>	Cultural studies Geography Philosophy Sociology Political science Political economy	.. conflict over marketisation ‘..technocratic expert management in the context of a non-disputed management of market-based socio-economic organization.’ (Swyngedouw, 2010: 227) carbon trading is an accumulation strategy that has ‘..provoked strong, if diverse and confused, movements of societal self-defence.’ (Lohmann, 2010: 247)

These comments signal very political dimensions, even political intentions, to expert scholarship on the design and implementation of carbon pricing. Today, rules for carbon offsetting, banking and borrowing are used in order to allow ‘flexibility’ for firms in terms of where and when they choose to reduce emissions (Fankhauser & Hepburn, 2010a, b). Rules for new carbon offsets like REDD are ‘bargaining chips’ in the negotiation of international climate law and finance (Jinnah et al., 2009).

There are number of other seminal reports by experts which have established the case for carbon pricing. In Britain, David Pearce was another key actor, co-authoring the *Blueprint for a Green Economy* (Pearce et al., 1989). The book argued strongly for market-based environmental regulation, as did his policy work on the design of UK’s first carbon levy in 1990 (Pearce, 2006). The Organisation for Economic Cooperation and Development (OECD) and United Nations Conference on Trade and Development (UNCTAD) were also producing reports analysing and advocating for market instruments for emissions management in the early 1990s (OECD, 1994; UNCTAD, 1992). The UK Stern Review (2007) and Australia’s Garnaut Reviews (2008a, 2011b) are more recent equivalents. Both argued that carbon pricing was a key tool for emissions management that is compatible with continued economic growth.

There are also informal commentaries in the environmental economics and law literature about the political agency experts exercise, and insights into the debates between these professionals and environmentalists. Reflecting on three decades of environmental policy in developed countries, Pearce noted ‘the presence of [market-based] measures is a remarkable testament to the influence of environmental economists on policy, and to the receptiveness of civil servants and politicians to new ideas’ (Pearce, 2006: 150). In another summary report of Project 88 economist Robert Stavins stated that the discussion of market-based environmental policy was spreading beyond academia in the late 1980s, government and business circles via a ‘new environmentalism’ evidenced by the Environmental Defense Fund’s (EDF) advocacy for incentive-based policy (Stavins, 1989: 5-6).

Daniel Dudek an economist from the EDF, and John Palmisano Founder and Chairman of emissions credit brokerage firm AER*X, temper Stavin’s account in their writing at the time. They felt that ‘bureaucratic inertia and infighting, dogmatic opposition from environmentalists, hostility in Congress, as well as indifference by polluters’ had handicapped the widespread adoption of emissions trading (Dudek & Palmisano, 1987: 218). Dudek and Palmisano depicted critics in the environmental and regulatory communities as resistant to change to the existing system and ‘savage competitors’ to advocates of market-based environmental regulation (Dudek & Palmisano, 1987: 239).

Fault lines of contention in the 1980s and 1990s are echoed in contemporary debates between economists and critics. In a book review, economist Axel Michaelowa (2011: 839) identified the ‘anti-capitalist ideology’ of carbon trading critics in a publication called *Upsetting the Offset* (Böhm & Dabhi, 2009). From this, we can infer that the contest over carbon pricing is ideological and about capitalism. These examples point to the role of experts in explicit political conflict over whether and how carbon pricing programs will be developed.

So how do experts see capitalism and the politics of emissions regulation within it? Some scholars have directly shared their views. Economist Anil Markandya (2009)

observes that capitalist societies have large public bureaucracies and often quite extensive environmental regulation. He insists success is less likely in planned economies, evidenced by the former Soviet Union's environmentally destructive record. For Markandya, market-based instruments give the greatest chance of achieving successful regulation because they reduce costs compared to command instruments. The most difficult questions he believes, concern public awareness and institutions adequate to the task of creating large carbon markets, where:

.. the creation of such a large number of rights that become increasingly valuable as targets are tightened, but that also lose value as alternatives to a carbon economy are developed. (Markandya, 2009: 1148-1149)

This comment flags the unique form of market creation experts envisage and help put into place. It is a market that if successful will have no value. Critics observe this is a contradiction in logic (see the penultimate section of this chapter), but advocates focus on the change to capitalism it promises.

Argentinian economist Graciela Chichilnisky, who was directly involved in brokering the Kyoto Protocol, insists that a subversion of market ideology underpins the agenda for international trade in carbon.

We seem to be adopting the market rhetoric and strategy, in reality we are subverting the concept of markets, putting ahead of it the questions of limits to resources... and not only limits, but redistribution to address the global North South issues which is stopping the negotiations. Once we do that, then the tail will wag the dog... it means that the market, the main institution of capitalism will change. (Chichilnisky, 2013)

This gives us a sense of the broader moral and political intent of expert policy makers, who perform this role more often with dry expert arguments for emissions trading on the basis that this instrument provides a secure 'cap' that limits emissions. Chichilnisky's commentary also signals the international bargains experts seek to strike. In a personal account of negotiations, Chichilnisky and Kristen Sheeran (2009) argue that the carbon market saved the Kyoto Protocol, when agreement was close to failure in 1997. Carbon markets promise financial transfers from North to South and flexibility for the reluctant developed world, particularly the JUSCANZ group (Japan, US, Canada, Australia, New Zealand, also known as the 'Umbrella Group')

At the international level, experts work with an understandable realism born of direct experience with the dynamics of negotiation between parties to the UNFCCC. Michael Grubb, who has written extensively on the political interests behind international disputes over carbon pricing design, puts it this way:

Many interests, within governments and industries, will seek to maximize the economic benefits they can obtain in implementing the Kyoto Protocol. The question is whether emissions trading will be implemented in ways that protect the interests of the atmosphere (whilst also being industrially and economically efficient) – in the ways that protect economic and political interests at the atmosphere's expense (Grubb, 1998: 140)

The Flexible Mechanisms in the Kyoto Protocol are a case in point. Their inclusion was a product of US influence and their representative's successful deployment of economic ideology:

Economically, US thinking was dominated by general equilibrium concepts which automatically imply that flexibility achieves the same environmental benefits at lower costs: hence, the more flexibility the better. That attitude, combined with US political dominance and the relative paucity of counter-arguments, largely determined the outcome' (Grubb, 2003: 184).

Of course, other national interests and concerns are written into the Kyoto Protocol, such as circumscribed limits to the use of 'carbon sinks' (defined as greenhouse emissions sequestered in land forms), in response to concerns that they would allow the wealthiest nations to avoid substantive action. These issues of distribution and allocation are still relevant today.

In the context of inertia in international negotiations, experts have participated in programs that build institutional architectures in anticipation of international agreements that they anticipate will mandate carbon market expansion. Public-private partnerships designed to demonstrate international carbon offset programs are a key example. In 2000 the World Bank Prototype Carbon Fund (WBPCF) was established as a public-private partnership including the Netherlands, Sweden, Japan, and Canada, and 26 companies, including Hydro Quebec, Daimler-Chrysler, Shell-Canada, and BP-Amoco. Legal expert Charlotte Streck observed that these platforms served the dual purpose of carbon market advocacy as well as being an implementation network for the CDM (Streck, 2004). The network has been followed by a spate of other partnerships that have built the ongoing emphasis on carbon markets. E.g. the Forest Carbon Partnership Facility and World Bank Partnership for Market Readiness.

There has been dissent from NGOs against corporate and international agency involvement, based on concerns about process and the broader political effect of instituting carbon markets ahead of international agreement (e.g. Cabello, 2013; Dooley et al., 2008; Reyes, 2011). Witte and Streck's (2003: 4) response to this kind of criticism is that 'partnerships can complement – not substitute for – governmental action, but only if there is a strong rules-based framework in place to ensure that critical issues such as power asymmetries, transparency, and accountability can be addressed.'

The belief that good global governance can resolve political and economic tensions is common, and can mean advocacy for private authority in the process. The normative agendas of this expert work aims to shift political agency and responsibility in ways that see private actors become managers of dissent and responsible market regulation. Jolene Lina and Charlotte Streck have written about private participation in the CDM and REDD development initiatives. They note that the UNFCCC brings in private non-state actors into the sphere of global climate governance. However, the 'state-centric' logic of international law (and lawmakers) limits this inclusion and inadequately protects private interests and rights. They argue for further delegation of authority to private actors, such as through an international market regulator.

On a national level, experts are faced with related but slightly different distributive dimensions to carbon pricing. They are often looking at the outcomes of rent-seeking

behaviour by private firms. The allocation of allowances under carbon trading is a potential source of economic rents to emitting firms. Experts frequently note that grandfathering emissions rights allocations has been essential to gain industry support and participation (e.g. Buchner et al., 2008; Dijkstra, 1999; Fischer et al., 1998; Grubb et al., 2011). However, this in turn creates a tensions in the political negotiation of climate policy packages.

Economists use telling metaphors for political dilemmas associated with carbon pricing, and emissions regulation more generally. Michaelowa and Butzengeiger drew on Greek mythology to convey the dilemma for states decision makers. The political choice is between the ‘Scylla of over-allocation, which would lead to an illiquid market with extremely low prices, while avoiding the Charybdis of alienating industry so much that it stalls climate policy completely’ (Michaelowa & Butzengeiger, 2005: 8). In Greek mythology, Scylla and Charybdis are two immortal, irresistible and deadly monsters on opposing sides of the narrow waters the hero Odysseus must cross. Odysseus was faced with these two equally perilous alternatives when he tried to traverse the Strait of Messina.

Apart from colourful metaphors like this, experts have offered some theoretical discussion of politics. There are some examples of reflection upon limitations to mainstream economic models. David Pearce for instance, recognises that ‘theoretical prescriptions are rarely met in practice..’ (Pearce, 2006: 150). Pearce and Grubb have both observed the near inevitable impacts of ‘political economy factors’ in climate policy design (Grubb, 2013). This highlights awareness of the limitations of the formal models of economic theory, for instance in the questionable assumption that governments are socially conscious and operate to ‘maximise welfare’ (Pearce, 2006: 155). In contrast to this, Pearce observes that governments operate according to ideology and political constraints such as reluctance to institute policy that leads to energy price rises (ibid.).

Public choice theory informs those experts who branch out into explanations of constraints on efficient and effective carbon pricing policy (Michaelowa, 1998; Svendsen, 1998, 1999). Public choice theory is the application of economic theory and methods to politics (Mueller, 2003). It applies to non-market subject matter that is normally the purview of political science such as behaviours of states, bureaucracies and voters. Like economists, public choice theorists assume all people are rational, competitive, and act to maximise their utility. Public choice theory was developed in a handful of North American universities in the 1960s in opposition to commonplace economic understandings of market failure, which assert, rather than demonstrate, the existence of willing and able states that could correct for those failures (Hindmoor, 2006: 85). By contrast, public choice theory involves a fairly hostile account of politics and the state as a source of inefficiency. James Buchanan, a leading scholar in the field described public choice as a ‘the science of political failure’ (Buchanan, 1984: 3). To the public choice theorists, state failures include acquiescence to rent-seeking, pork barrel politics, and bureaucratisation.

Public choice thinking is now commonly expressed by climate policy experts. For instance, Michaelowa (1998) methodically summarised his public choice view of key actors involved in climate policy debates (*emphasis added to quotes*):

- *National politicians* see climate policy as one issue among many others, one which only becomes relevant if it captures voters' attention, which happens especially following meteorological extremes. Due to the high information costs of voters, politicians will try to develop a bundle of highly visible and easily understandable measures that benefit well-organized lobbies while their costs are distributed as broadly as possible, preferably even shifted into the future or abroad. (p. 251)
- *Lobbies representing emitters' interests* will try to keep the costs of climate policy as low as possible or even to gain additional rents. (p. 253)
- *Trade unions* in highly energy-intensive sectors have often joined emitters' lobbies. (p. 253)
- *NGOs* set up associations (the Climate Action Networks) on the national and international level to bundle their sparse capacity. As they can only raise their donation income through easily understandable campaigns, they focus on simple targets or single issues - such as photovoltaics campaigns or the Greenpeace fight against the exploration of new oil deposits. (p. 255)
- *Voters* are mainly interested in the supply of private goods such as jobs. They become interested in climate policy if urgent local environmental problems have been solved and the general economic situation is good. (p. 254)
- *National environmental and climate change bureaucracies* are interested in successful climate negotiations as they guarantee their existence and lead to enhanced competences. (p. 259)
- *International bureaucracies* are eager to grasp a share of new institutional activities. (p. 259)

These categorisations are very clearly born of the author's political experience as much as they are derived from tenets of public choice thinking. Apart from intellectual training and culture, it is likely that the public choice theoretic is appealing to experts because they have been directly observing the contention over carbon pricing and its moribund dynamics. They have firsthand knowledge of the relations between organised lobbies, social movements and bureaucrats for decades. As Michaelowa suggested in 1998, contests between these actors over European emissions trading have 'distorted' the policy outcome. Rent-seeking for favourable allocations under the EU ETS has led to major windfall profits, particularly in stationary energy sector (Sijm et al., 2006).

Despite these patterns of activity, we should question the public choice view of rent-seeking as a description of unchanging social facts. Another way to conceive of the public choice perspective common to expert professions is that it has shaped rationalist political cultures and strategies of states agencies over time (Hay, 2004). Read in these terms, Michaelowa's typologies are very interesting sociological evidence of the economic rationalism that has informed climate politics since the 1990s. This is a time where new global environmental bureaucracies were forming and consolidating, and parliaments in Western democracies were seeking ways to 'resolve' new electoral problems environmental issues and Green parties were posing.

In another way, Michaelowa's observation concerning ENGO strategies is perceptive about politics of the time and still relevant today. In response to global climate policy developments ENGOs created the Climate Action Network (CAN), but continued to resist extractive industry expansions on the ground where their social power could be built. Over time, the three frontiers of NGO campaigning on climate change have

formed: one on climate policy, one on fossil fuels and on renewable energy (see chapter 8).

There is also something interesting about the intellectual connections between economists who advocate carbon pricing and those who critique it and other forms of emissions regulation. Michaelowa's outlook is in fact quite similar to the FME view of state regulation, and of environmentalists and political contestation. FME economist Bruce Yandle has used the analogy of bootleggers and Baptists to describe the common inefficiencies of climate change regulation (Yandle, 1998). It is drawn from stories of attempts to prohibit alcohol on Sundays in southern US states, where bootleggers had an interest in prohibition on alcohol sales (not consumption) because it opens up their market, and Baptists support the prohibition on moral grounds. In the case of climate change politics, polluting firms like large power generators are like bootleggers, keen for regulations that limit new entrants to the market and reduce competition. This regulation allows them to charge higher prices. Environmentalists are the Baptists in this scenario, who play a role in ensuring regulation goes ahead and is enforced.

In Yandle's view, environmentalists don't care about the distributive impacts of regulation in the market (i.e. that some firms gain an advantage, others don't). Rather, they are only concerned about meeting the overall greenhouse emissions reduction target. Whilst industry and environmentalists may not work in explicit or conscious coalition, the FME reading is that their combined roles 'helps explain costly, ineffective regulations, from the 1977 Clean Air Act amendments in the United States to the 1997 Kyoto Protocol in Japan' (Anderson & Leal, 2001: 129).

Whilst the broad observations are shared by the majority of experts, the majority also conclude that carbon pricing is a worthwhile endeavour. What is most striking about the picture of politics created in expert scholarship on carbon pricing is the mismatch between economic realism of their intellectual outlook and a utopianism evidenced by decades of personal and political engagement in negotiations over carbon pricing design. Experts operate as technicians of political agreement. Pearce argues that political reality demands that other goals must be incorporated into 'practical' policy-making, even when they are not consistent with one another (or the goal of emissions reduction) (Pearce, 2006: 150).

What is the political remedy to contested issues surrounding carbon pricing? Economic, legal and policy expertise applied to the task to defining rules for accountability and market institution building. Experts are relentless in making the case for countless ideas for improvements to carbon pricing institutions. For instance, they argue for auctioning rather than grandfathering emissions permits (e.g. Cramton & Kerr, 2002; Hepburn et al., 2006; Woerdman, 2000), for reform of the CDM (e.g. Michaelowa, 2005; Streck & Lin, 2008), and for appropriate safeguards in any future REDD agreement (e.g. Fry, 2008; Lyster, 2011; Roe et al., 2013).

In sum, experts create a picture of carbon pricing as part of a political project for marketised policy reform. There is open recognition of the agenda from experts to establish marketised climate policy as both a commonsense alternative to direct regulation and solution to collective action problems. They also present carbon pricing politics as a source of policy incoherence, as a result of the arbitrage between self-interested agents in business as well as society and the state. Nonetheless, they enact a

utopian hope for good public policy, very aptly described by Axel Michaelowa as a dangerous journey between Scylla and Charybdis.

.. diffusion, strategic positioning and negotiation

There is a substantial literature analysing the policymaking processes behind carbon pricing. Political scientists (specialists in public policy, international relations, global governance, and business studies) are the key writers in this field. The core task is to explain the origins, evolution, and outcomes of carbon pricing reforms. Attention is given to the choice of policy instrument (e.g. carbon trading versus taxation) at particular moments in the political process, key actors involved in decisions, and notable reforms to carbon pricing institutions over time. The largest area of empirical policy-focused study is the development and ongoing reform of the EU ETS. There is also work on national carbon taxes in Northern Europe, origins and governance of the CDM and REDD+. There are also a range of studies looking at business coalitions engaged in the carbon trading policy process.

A key focus of analysis by European political scientists has been the history and reception of carbon pricing as the central mode of climate policy reform. The first carbon pricing schemes in Europe were energy taxes in the 1990s, which signalled a departure from previous decades of pollution control policy. Simon Dresner and colleagues (2006b) traced the earliest mention of carbon taxation in the UK to 1972 Minority Report of the Royal Commission on Environmental Pollution and the ‘Pearce Report’ to the Department of the Environment in 1989 (Pearce et al., 1989). The UK was also influenced by carbon taxes and fuel taxation being implemented in Northern Europe in the early 1990s. However, public resistance to energy taxes among the public and business were major stumbling blocks to effective implementation. Public opposition also stopped the implementation of an energy tax proposal in France (Deroubaix & Lévêque, 2006).

These tensions were common across Europe. In a comparative study of energy taxes in the EU, a common finding was lack of trust that the government would do what it promised with the revenues was a ‘fundamental problem’ (Dresner et al., 2006a: 901). Members of the public were worried about regressive impacts of taxation, confused about the ‘double dividend’ argument (more often people preferred the idea of recycling tax revenue for environmental purposes), and firms were concerned with the impacts on costs of production given the difficulty of reducing energy use, preferring other policy approaches such as emissions trading and voluntary agreements (ibid.; see also Harrison, 2010; Jagers & Hammar, 2009).

In comparison to taxation, emissions trading has arguably been a more politically successful form of carbon pricing. Jan-Peter Voß, a German political scientist, identifies three stages of an ‘innovation journey’ toward emissions trading policy: from ‘gestation’ as economic theory and regulators in the US proved the prototype 1960s and 1970s, to taking the prototype into the real world with trial policies that had varying success in the 1980s and 1990s, to regime formation on a transnational scale in the early 2000s. The policy process over time fortified this direction.

Over the course of the innovation journey, special expertise and organisational patterns build up and solidify. Increasing sophistication and complexity of the instrument induce

further growth and internal specialisation in the expert community. The ‘carbon industry’ creates powerful economic interests in retaining and developing the instrument. (Voß, 2007: 340)

The terminology of policy diffusion is common in the literature. Policy diffusion is the idea that the policy made in a given place and time are influenced by the policy choices and innovations made elsewhere. It implies learning and social emulation have occurred; the question political scientists seek to answer is why? (Gilardi, 2010). The answers come in the form of descriptions of key patterns of regulation, actors and institutions involved, based on information gathered through document analysis, interviews and focus groups. Common categories of analysis in the political science literature are: institutional settings, policy entrepreneurs, policy innovations. These concepts tend to be faithfully applied to the carbon pricing policy process.

There is a key insight from this literature with regard to the importance of *policy type*. For Kerstin Tews et al., (2003: 577) analysis of the policy process should attend to specific characteristics of policy types being designed, as well as to the structure of the problem they address. Regard to these specificities is necessary in order to produce insights about particular policy innovations as a variable determining the extent and nature of policy diffusion.

In some scholarship on carbon pricing policy, political conflict is depicted as a limit to policy innovation led by entrepreneurs. For instance, British political scientist Andrew Jordan and his colleagues identified an ideational shift at EU level politics in the early 1990s. ‘New’ flexible environmental policy initiatives (carbon taxes, voluntary agreements, and eco-labelling) were endorsed by an advocacy coalition within the European Commission Environment and Energy directorates (Jordan et al., 2003). In their reading, 1992 was a turning point in politics because this is the year an EU-wide carbon energy tax proposal was made, and the Fifth EU Environmental Action Programme (EAP) was adopted. This EAP was heavily influenced by Dutch officials and emphasised new market-based policy instruments. The tax proposal did not reach the unanimity amongst EU Council of Finance Ministers required for fiscal reforms. Jordan et al. (2003: 566) note that the UK’s sovereignty fears and the Spanish government’s development fears were key themes in contention. They conceptualise this successful resistance as institutional constraints and external circumstances which ‘limit the scope of supranational entrepreneurship’ of the EU bureaucrats.

The EU carbon tax proposal was replaced with a successful proposal for the EU ETS. The ETS was an environmental policy not a fiscal instrument, so did not face the veto power of member states. However, it did face opposition amongst some public officials, emissions-intensive industry and ENGOs (Skjaereth & Wettstad, 2008). The European shift from opposition to political acceptance of carbon trading was fascinating to political scientists (Christiansen & Wettstad, 2003; Damro & Méndez, 2003; Skjaereth & Wettstad, 2009).

Policy entrepreneurs have been described as key agents in this development in European carbon trading. ‘Policy entrepreneurs’ are defined as people who ‘advocate new policy ideas and develop proposals, define and reframe problems; specify policy alternatives; broker the ideas among the many policy actors; mobilize public opinion; and help set

the decision-making agenda (Roberts & King, 1991: 148). Needless to say, this is a term appropriate for a number of the authors cited in the previous section.

Marcel Braun (2008) tested the hypothesis that knowledge sharing between experts and policymakers about emissions trading and options for scheme design provided momentum for the eventual EU ETS. Braun's interviews with policy actors detailed the ways in which the DG Environment accumulated knowledge about emissions trading in the lead up to the proposal, including engaging US experts with experience in emissions trading, and consultations with business and ENGO experts open to or advocating emissions trading. This 'management' of knowledge exchange, along with skilled maneuvering to fast-track policy decisions, gave a small number of DG bureaucrats authority enough to see off resistance to the ETS proposal they drafted (Braun, 2008: 481-483).⁶

Political scientists have been interested in capturing the ways in which political debates over carbon pricing become resolved. Norwegian political scientists Jon Birger Skjærseth and Jørgen Wettestad found that the strategy of these expert entrepreneurs was to adapt arguments for emissions trading for different audiences:

To industry, the instrument was framed as a cost-effective tool that could even provide economic opportunities for shrinking emitters to sell allowances. To ENGOs (and the European Parliament), the instrument was framed as environmentally effective, as it would automatically lead to the target/cap set (given various conditions). To governments, both these arguments were combined and linked to implementation of the Burden Sharing Agreement and the Kyoto Protocol targets. (Skjærseth & Wettestad, 2009: 109)

The geopolitical context plays a role too. Wettestad's (2009: 17) Brussels informants argue that EU-US relations over carbon pricing also played a role, in that the withdrawal of the US from the Kyoto Protocol instigated a shift in EU political positioning and reframing of emissions trading. The policy had gone from being a symbol of US avoidance of emissions abatement responsibility to a means of salvaging the Kyoto Protocol (see also Cass, 2005). In addition, the Commission also strategically removed the 'potentially damaging' issue of national emission caps from the decision-making process early on.

An important aside to this is that the decentralisation of national emissions cap decisions became a key reason for unambitious caps and grandfathered emissions permits down the track. Skjærseth and Wettestad (2009) read the debate over caps as part of a tension between environmental ambition and the political legitimacy of the EU ETS among member states who are protective of their autonomy. They argue this tension can be resolved by gradually increasing ambition over time (Skjærseth & Wettestad, 2009: 117).

⁶ A report by two staff of the DG Environment illustrates this. In a section titled 'Major misconceptions of the European emissions trading debate' they outlined sharp arguments for emissions trading against critiques concerned about 'hot air' of international offset credits, against those with ideological disbelief in markets and so on (Zapfel & Vainio, 2002: 12-26). This positioning also echoes the fault lines of contention between experts and their critics mentioned in the section above.

Skjærseth, Wettstad, Braun and a number of other political scientists have also emphasised the role of industry positioning in shaping carbon pricing politics. The first phase of industry response to climate change is widely understood as a strategy of obstruction (Kolk & Levy, 2001; Meckling, 2011a). Until the mid-1990s the most emission-intensive industries were staunchly against emissions regulation of any kind. They began to mobilise resources collectively against international and national climate policies in the late 1980s.

A key example of industry opposition in the US was the Global Climate Coalition (GCC), a fearsome opponent of climate policy. The GCC was formed in 1989 and represented industries making up approximately 40% of the US economy and a number of European multinational companies in fossil fuel and energy-intensive manufacturing sectors, including the oil, coal, automobile, electricity, cement, aluminium, steel, chemicals and paper industries (Meckling, 2008: 173). The GCC's strategy involved casting doubt on the science of climate change and opposing US participation in the Kyoto Protocol (Levy & Egan, 2003). The GCC was a key influence on the Byrd-Hagel resolution passed in the US Senate 1997. The resolution stated that the US should not become a signatory to any UNFCCC protocol that would require US GHG emissions reductions unless it also mandated 'new specific scheduled commitments to limit or reduce greenhouse gas emissions for Developing Country Parties within the same compliance period' (US Senate, 1997).

However, anti-regulatory strategy became questioned as an international agreement to institute the Kyoto Protocol developed. The adversarial strategy of the GCC made some of its members uncomfortable. Attempts to undermine the scientific authority of the Intergovernmental Panel on Climate Change (IPCC) fell flat, and was opposed by the American Petroleum Institute. European petroleum firms led a quiet split in the GCC in 1997-98. British Petroleum (BP) and Shell withdrew, and became associated with more cooperative initiatives. They became members of the World Business Council for Sustainable Development (WBCSD), the Pew Center on Global Climate Change and the International Climate Change Partnership (ICCP), which endorsed market instruments for emissions management.

In Europe the political context was different. With climate policy inevitable, the strategy of resource and energy industries was to anticipate and shape the choice of policy instrument. BP created an internal emissions trading system with the assistance of EDF. Shell followed suit shortly after. Part of the motivation for BP was to gain experience in the emissions trading policy instrument, and forestall a UK decision to pursue carbon taxation or direct regulation (Victor & House, 2006). It is worth noting that DG Environment experts Peter Zapfel and Matti Vainio (2002: 12) confirmed the influence of BP's move on the EU shift to emissions trading in the early 2000s, saying:

the implementation of the BP pilot (scheme) and the extension to cover all the 150 business units world-wide as of January 2000 constituted increasingly powerful drivers in the discussion.

In the UK case, the state was a willing partner to emissions trading initiatives. At the request of the UK government in 1999, a 30 member group of businesses housed in BP's offices called the 'Emissions Trading Group' was formed. They developed a

proposal for a voluntary emissions trading scheme in Britain as part of a larger suite of climate policy reforms, that also included a renewable energy certificate trading scheme, fuel efficiency and household energy efficiency programs, and a carbon tax on coal, gas electricity, and non-transport liquefied petroleum gas (LPG). At the same time these firms participated in the ETS programs, they opposed the UK Climate Change Levy. The levy was dramatically scaled back as a result (Kolk & Levy, 2001).

Importantly, the ‘trans-Atlantic divide’ between firm strategy on climate policy illustrates that corporate interests are shaped by their domestic political contexts. Ans Kolk and David Levy (2001) argue that ‘local’ socio-cultural factors are important. For instance, US-based firms such as ExxonMobil and Texaco did not take on the same proactive stance of their peers from GCC. Market position and internal organisational are also factors. Exxon had come out on top as a result of major corporate mergers in the oil industry during the 1990s, and thus felt less pressure than other energy firms to change strategy. It had a highly centralised strategy coordination compared to other firms such as Shell, where decentralisation brought opportunities for corporate change (Kolk & Levy, 2001: 505-506).

The development of new coalitions for emissions trading is a common illustration of this. A notable example is the International Emissions Trading Association (IETA) which was created in 1999 to coordinate businesses specialising in the task of constructing new carbon markets. In January 2007, the US Climate Action Partnership (USCAP), a coalition of initially nine companies and four environmental NGOs, was launched to advocate emissions trading (Kolk & Mulder, 2011).

Emissions trading is a ‘policy compromise’ addressing the interests of emission-intensive industry who have been concerned about likely future climate policies that imposes compliance obligations on emitting firms. Jonas Meckling observes that ‘business support for carbon trading allowed governments to develop mandatory, yet market-based, climate policies’ (Meckling, 2011b: 27). Carbon pricing policy in this view is the outcome of strategic manoeuvring by business vis-à-vis the state and civil society. More importantly, carbon pricing politics is about building power through organisation.

Meckling emphasises the process of coalition building as a source of strategic power toward these ends. He argues that transnational coalitions between corporations, states and civil society are increasingly the ‘political-economic engines of global environmental politics’ (Meckling, 2011a: 45). Meckling’s theoretical framework is a combination of ideas from game theory, social constructivist international relations, and business studies. It’s a creative reworking of these ideas into an explanation for corporate strategic choices. Interestingly, the analysis does not theorise firm or state behaviour in terms of capitalist social organisation. Explanation for strategic manoeuvring, in his view, is about power but not about the structure of capitalist markets firms operate in.

Interest in the agency of business in carbon market governance often means shifting focus and eschewing state-centric accounts of climate politics. The arrival of new business-led initiatives for carbon markets such as IETA and the voluntary market standards has led some political scientists to consider them as signs of shifting authority in global climate governance. Steven Bernstein and colleagues (2010), for instance,

point to IETA and other private carbon market agents as evidence of a broader fragmentation of climate governance. Attention to the politics of inter-state negotiation through the UNFCCC is only half the story. The conceptual challenge they argue is to consider the importance of these actors in ways that ‘decentre multilateral treaty-making’ and bring private actors in from the periphery of our thinking (Bernstein et al., 2010: 170).

Having said that, Bernstein et al. (2010: 172) recognise that carbon commodities rely upon international agreement. Without it, there is no market demand. Continuing this line back in the other direction, Markus Lederer (2012a) observes that there is ongoing relevance of the state to carbon market creation, and ongoing market regulation.

.. currently neither market actors nor NGOs nor public private partnerships have the political power to set up, regulate or capture the evolving structures of carbon markets (Lederer, 2012a: 526)

The conclusions we can draw from this are that whilst private carbon market initiatives show us that political authority is not solely vested in state institutions, the public realm remains central to carbon market viability. This is confirmed by scholars investigating the role of state agencies in land-based carbon schemes, such as the NZ ETS (Cooper & Rosin, 2014), offset governance in Alberta, Canada (Hackett, 2015), and many PES and REDD programs (Vatn, 2015). More fundamentally, these observations build the case for a political economic analysis of the state, and its relations with business and civil society over carbon pricing.

Earlier work on business strategy and climate policy outlined an historical materialist reading of these dynamics. David Levy and Daniel Egan (1998, 2003), and Peter Newell and Matthew Paterson (1998) have developed Gramscian revisions of regime analysis in order to theorise the relation between state and fossil fuel capital, as well as the dynamics of change visible over time. They point to the specificity of fossil fuel production to the history of capital accumulation and the particular forms of structural and discursive influence energy-intensive firms have come to have in relation to states.

Building on critical state theory, Levy and Egan (2003) used Gramsci’s term historic bloc to describe the configuration of corporate, state and civil society organisations seeking hegemony over climate politics. An historic bloc is more than strategic positioning; it is ‘the specific alignment of material, organisation, and discursive formations that stabilise and reproduce relations of production and meaning’ (Levy & Newell, 2005: 50). Organic intellectuals articulate the agency and organisation of social groups. The agenda for carbon pricing is part of a ‘war of position’, a long term political strategy to gain influence in civil society and create new allies. The political result according to some neo-Gramscians is a ‘passive revolution’ from above that neutralises competing forces for radical change (Matt & Okereke, 2014: 126).

There is some evidence for Matt and Okereke’s proclamation. In 2000 Claire Gough and Simon Shackley identified a ‘respectable politics of climate’ emerging wherein NGO strategies accept the terms of the Kyoto Protocol, and take to the task of selling existing policy proposals (Gough & Shackley, 2001). Put another way, NGOs have been more successful in agenda-setting on the issue of climate change than they have influencing policy debates (Newell, 2000). Having said this, there is a ‘radical’

opposition to established forms of climate governance. For instance there have been critical of forest carbon offsetting. Activists in North-South alliances have argued that offsetting schemes are neo-colonial attempts to displace climate responsibility which produce new harms (Bachram, 2004; Cabello & Gilbertson, 2010). We can think of this strand of the ‘climate justice’ movement as a source of ‘civil environmentalism’ questioning the carbon market and seeking greater accountability (Bäckstrand & Lövbrand, 2006; Paterson, 2010), or more broadly, as part of a project of anti-systemic resistance to elite climate governance (Bond, 2012b; Rosewarne et al., 2014).

There is a great deal of diversity within the literature addressing policy processes, but one key contrast that stands out. Where descriptive approaches to mapping climate policy diffusions give us a sense of politics as entrepreneurial and almost rational, the more dynamic accounts of coalition building and political positioning evoke carbon pricing politics as a struggle for power and authority. All of these works provide important empirical insights into the evolution of carbon pricing politics. However, the Gramscian analyses asks us to consider how we should conceive of political contestation in material and historical terms.

There is only room to flag this theoretical and empirical imperative here. In summary, the Gramscian reading of the policy process establishes that social order is not fixed; it is forged through dialectical struggle. In the contest between historical blocs, civil society is both a site of consensual legitimation *and* resistance (R. Pearse, 2010b: 171). This raises the question about how to interpret the strategies of NGOs and social movement organisations in this contest over carbon pricing (see chapters 7-8; and for preliminary thinking on this see R. Pearse, 2010b). More fundamentally, any claim to the state’s relative autonomy from fossil fuel capital needs to be defended (see chapter 2).

.. heterogeneous relations

In cultural studies, human geography, political science and sociology, another body of literature has emerged which focuses on the socio-technical and socio-ecological relations involved in carbon market creation. Authors in this arena frequently describe their work as asking ‘how’ questions about carbon markets. The political orientation of this scholarship often involves asserting distance and intellectual difference from ‘leftwing hostility’ toward carbon markets based on ‘simplistic’ and ‘over-generalised’ accounts of how carbon markets work written by critics in social movements and academia.⁷ The subfield is heavily influenced by French poststructuralist social theory, particularly Michel Foucault, Bruno Latour, and Michel Callon. The field has sought to extend definitions of carbon pricing politics beyond the formal political process and beyond normative debates about whether and how trading schemes should be implemented (Stephan & Paterson, 2012: 549). There are also interesting observations in this field about the climate as political space and about human/non-human relations.

⁷ See (MacKenzie, 2009: 451), (Lovell & Liverman, 2010: 258), and (Descheneau & Paterson, 2011: 662).

Attention to complex practices and logics within and beyond the formal policy process takes a significant step away from conventional coalition and epistemic communities analysis. Political scientists drawing on poststructuralist ideas have revised their view of the political process and policy. Jan-Peter Voß (2007: 340) goes as far as assigning agency to carbon trading policies themselves which are conceived as ‘social entities, quasi-actors and institutional trajectories in their own right’. Arno Simons and Voß make much of the fact that policy models themselves interact with the practice of installing market arrangements. This gives rise to an ‘instrument constituency’ made of people, organisations, their tools and stories which circulate vis-à-vis the implementation of carbon trading. Policy instruments have a ‘double life’, where formal economic models and their implementations are in a process of ‘material-semiotic structuration’ (Simons & Voß, 2014: 53). This implies that the emergence of carbon trading as a prevalent policy instrument is not only the result of a ‘ready-made’ product (the ideas and models of experts), but via the social and technical arrangements through which they emerge.

A range of studies now exist that detail the enactment of carbon trading. In a paper on the IETA CarbonExpo forum, Phillipe Descheneau and Matthew Paterson (2011) observed that affective ‘desire’ for carbon markets (as an economic and moral good) and ‘routinized’ practices borrowed from financiers brings carbon markets into being. Janelle Knox-Hayes (2010) argues that the practice of creating carbon markets involves constructing space and time. The infrastructure of carbon markets seek to integrate the environment into capitalist social organisation, and effect ever greater control of space and time.

Emissions reductions have neither real space nor real time because the emission never occurs. The reduction is rather a mere reflection of the counterfactual, of what might have otherwise occurred. Both its space and time must be constructed. (Knox-Hayes, 2010: 954)

Emissions reductions are valued, connected, and coordinated through diverse sites from the CDM registry to trading platforms. Non-existence of carbon is assigned a value. Knox-Hayes reads this as a neo-modern attempt to control human and non-human activity in both time and non-time, and in space and non-space.

In contrast to Knox-Hayes, Pellizonni (2011) emphasises contingency, rather than control. Calculations necessary for the creation of carbon commodities are ‘highly speculative evaluations, not only of underlying biophysical processes, but also of the stability and evolution of these markets and their supporting institutions and regulations’ (Pellizzoni, 2011: 798). His larger point is that uncertainty and contingency feeds neoliberal climate governance, which is led by flexible and adaptable entrepreneurial agents.

There is work on government from a poststructural perspective. Eva Lövbrand and Johannes Stripple (2010, 2011) have used the ideas of Michel Foucault to explore carbon accounting as a rationality of government. They insist that by looking at the practices involved with measuring, quantifying, demarcating and statistically aggregating ‘carbon’, we can glean important insights into how carbon markets are created, and ask questions about how political accountability is defined and/or alluded. A key insight from this work is that rather than signalling a retreat of the state, carbon

market governmentality represents a transformation in political rule where private authority of non-state actors engaged in carbon accounting becomes both an object and subject of government (Strippel & Lövbrand, 2010).

There are geographical and biophysical dimensions to this. Lövbrand and Strippel (2006) have elsewhere argued that the climate is a contested political space. They contend that climate science (or at least the popular interpretation of it) has emphasised the global character of the carbon cycle through new satellite and other technologies. The construction of tradeable 'carbon sinks' under the Kyoto Protocol and through carbon accounting expertise renders the carbon cycle as bounded pieces of land in the global South, and at the same time, the resulting CERs can be exchanged on a global carbon market. These political practices involve a dual process of re-territorialisation and de-territorialisation. Lövbrand and Strippel observe that these reconfigurations ultimately reproduce the existing spatial organisation of world politics. Nonetheless, this process is contested. Political objections to the inclusion of carbon sinks from developing nations and NGOs have involved concerns that sinks excuse emissions reductions in the developed world, and risk land and resource rights of communities in rainforest nations.

In writings like these, there are some clues about the view authors hold about the conventional political purposes of carbon market practices. Heather Lovell and Donald MacKenzie (2014) traced the politics of expertise where timber market allometric equations are being translated for the measurement of forest carbon, a requirement for a future REDD market. They observe that natural science equations are a type of market device. Natural science is a 'market science', especially where natural commodities like timber and carbon are involved. Further, they comment that focus on measurement and verification methods of REDD may act as a distraction from the political task of addressing underlying causes behind tropical deforestation.

In earlier seminal work MacKenzie described the process of making carbon commodities in revealing detail. He depicted the process of bringing carbon markets into being as 'making things the same' (MacKenzie, 2009). Carbon markets involve establishing equivalence between fungible carbon units. These units are produced by a process of commensuration. This is the transformation of qualitative differences into quantitative ones, where differences become expressed with a third thing - a common metric like tCO₂-e (see also Levin & Espeland, 2002). In practice, commensuration has raised questions about how to find standard treatments of emissions 'rights'? To reflect on this process, MacKenzie used the example of his university's emissions at a heat and power plant in Edinburgh (Edinburgh University is a participant in the EU ETS) and a refrigerant gas plant in China's Zhejiang province (a supplier of CDM CERs).

There has been contention over errors in calculations of global warming potential (GWP) of refrigerant gases governed through the UN CDM regime. The IPCC gave a 'preliminary estimate' that one tonne of HFC-23 in the atmosphere has the same effect as 11,700 tonnes of carbon dioxide (Houghton et al., 1996: 59-60). Through trade of CDM credits in the EU ETS, the decomposition of one tonne of HFC-23 in China, one can earn allowances to emit 11,700 tonnes of CO₂-e in Europe. The IPCC acknowledged uncertainty in this figure was $\pm 35\%$ (ibid.: 73, 119). Since then, the GPW of HFC-23 has been revised upward to 14,800 (IPCC, 2007: 212). However, neither of these challenges to the metric influenced the market for some time.

MacKenzie argued that scientific authority of the IPCC was ‘black boxed’ in order to construct this highly lucrative aspect of carbon trading.

Geographers Heather Lovell and Diana Liverman (2010) opened up the ‘black box’ of carbon offset technologies. They set out to uncover the diversity of practices and technologies involved in creating offsets. It is a response to what they describe as a ‘polarised’ debate over carbon trading, where critics ‘fail to attend to different types of carbon markets and the practices involved in them’ (Lovell & MacKenzie, 2011: 726). For instance, the compliance market for CDM credits is hierarchical and highly regulated compared to the parallel voluntary carbon market (see also Bumpus & Liverman, 2008). Whereas, the CDM governing bodies have ‘an obsession with accuracy’, the voluntary market are more focused on telling qualitative stories to consumers who want to sense a connection with local communities at offset sites. As one manager from an offset firm interviewed by Lovell and Liverman put it, the compliance market doesn’t care where offsets come from, but in the voluntary market the type of technology being used determine entry (Lovell & Liverman, 2010: 265-266).

There is a great diversity of practices and technologies involved in producing carbon offsets. Understanding these relations, has led scholars to conceive of technologies as having agency. Lovell and Liverman (2010: 267-268) illustrate this by noting that the failure of methane capture technology resulted in an offset company going into administration. They also note that the ‘framing’ of cookstoves has shifted under offset governance. Cookstoves are a technology which was previously associated with programs for poverty alleviation and development. They are ‘made new’ through their inclusion in carbon offsetting.

Geographer Adam Bumpus (2011) makes a similar point. He argues that we should attend to the biophysical characteristics of ‘natural resources’ that shape the commodification process, from appropriation to rates of profit (see also Bakker, 2003b; Bakker, 2010a). For instance, the measurement of HFCs for carbon trading purposes is much easier to perform than measuring and accounting for emissions avoided through afforestation and other land management practices. Bumpus contends that the creation of carbon commodities plays out as a dialectical tension between the materiality of the carbon cycle and the international carbon market. ‘Local socionatural relations’ are in constant tension with institutional requirements such as carbon standards (Bumpus, 2011: 618). Bumpus compares two contrasting types of offset projects in Honduras - the CDM La Esperanza micro-hydropower project and a voluntary offset project that distributed efficient cookstoves to communities in Tegucigalpa. He details problems of measurement where cookstoves are dispersed across a wide geographical range, and a generator blowout after heavy rain affect energy output and offset credit production.

Bumpus’ work is interdisciplinary, and draws in part on heterodox political economic theory that is commonly used in the geography literature. Social theory is more common in the scholarship on carbon market practices and technologies. Most of the scholars mentioned in this section work with the ideas of Actor Network Theory (ANT). ANT comes from the work of French sociologists Michel Callon and Bruno Latour. It is a relational theory of the social as more-than-human. It assumes actors are radically indeterminate; any form of nature-society binary (or dialectic) is insufficient. Rather than suppose discrete subjects and objects, they argue human and non-human ‘*agencements*’ operate in hybrid networks. Identities and qualities are constituted

through imbrications of human and non-human. Needless to say this is a much more heterogeneous description than a simple ‘society-nature’ distinction, or even society-nature dialectic, allows. ANT eschews general claims about phenomena or processes such as state interests or capital. Calculation and representation (‘framing’) of this heterogeneity is political. Framings inevitably generate overflows and ad hoc reconfigurations of science, technology and the market.

Michel Callon (2009) himself has outlined a thesis that carbon markets are experiments run *in vivo*, that is, in real markets. This is an overlap in terminology with experts, who commonly describe carbon markets as an experiment (e.g. Hepburn, 2007: 377). Callon recognises this; however, his economic sociology is intended as a counterpoint to neoclassical economics. He insists that efficiency is not guaranteed in markets; rather, it is specific to the socio-technical arrangements put into place (Callon, 1998). More to the point, he argues that the ‘socio-technical arrangements’ involved in making markets are much broader than stylised categories of producers, intermediaries, consumers and the like. Instead, carbon markets are assembled by a diversity of different scientists, international agencies, accountants, accounting processes, economists, legal proceedings and so on (Callon, 2009: 539).

This view of economic agents conceptualises a broad field of politics that is indivisible from economics and science. Callon describes the carbon market experimentation as a ‘joint process of politicization-economization-scientification’ (Callon, 2009: 545). ‘Matters of concern’ arise via the market’s functioning and the framings / overflows it entails e.g. the framing of ‘carbon sinks’ or contested rules of HFC-23 accounting. As new matters of concern are problematised, new attributes and significations are given to economics, politics and/or science.

As experimentation progresses, new forms of organization and socio-technical *agencement* of markets are invented, for unexpected questions arise, to which answers and at least temporary solutions are needed (Callon, 2009: 545)

Thus controversies over the measurement and governance of offset credits, allocation of allowances and so on, are moments when questions are posed, and ‘solved’ albeit temporarily.

Callon’s sociology of markets raises the question of whether and how processes of contention, deliberation and resolution can be deemed better than others. Can we make normative political judgments? His key premise is that discussion of matters of concern that allows for free expression will lead to satisfactory and efficient markets. Callon’s normative position on what might constitute ‘satisfactory’ carbon politics is summarised as follows:

The social engineering of markets could thus become an explicitly political issue. This could lead to actors hitherto excluded from or considered as external to the world of politics being granted an unusual place and role in the debates but also in decision-making processes. For this to happen, the creation of procedures that we have proposed to call dialogical could be demanded. (Callon, 2009: 546)

Callon seems to ride very close on the tail of expert and state elites who promote good governance. He assumes avenues for expressive politics will translate into substantive reform of markets, and says nothing about the risk that participation in policy design

can be used by state and market agents as a means for legitimization without genuine attempts to produce effective climate policy.

Importantly, the ‘could’ in the above quote from Callon, belies some recognition on his part that participatory deliberation (let alone substantive emissions reduction) has not been realised in carbon markets to date. Others in the ANT field have done the same. MacKenzie’s political conclusions from his study of emissions measurement and classification are a case in point. MacKenzie has reflected that:

.. much of what I have described is consistent with a bleak, essentialized view of capitalism, as inherently irresponsible and environmentally damaging, rather than Callon and Latour’s more optimistic perspective. Yet the conclusion that carbon markets are inherently flawed carries a risk. Abandonment of such markets might well mean no serious international abatement efforts, rather than abatement by other means. (MacKenzie, 2009: 451)

The dilemma MacKenzie poses between carbon markets or nothing, sounds very similar to Michaelowa’s Scylla and Charybdis. Echoing both economists and Callon, MacKenzie (2009: 452) resolves the political question when we says: ‘to conclude that carbon markets must fail may also be unduly pessimistic, in that it would miss the extent to which carbon markets hitherto have been experimental’.

Ultimately, these positions underline the proposition that ANT takes a view of markets and capital as continually emerging and re-emerging (but not driven by general processes of accumulation or systemic crisis). In MacKenzie’s (2009: 441) words: ‘If the characteristics of ‘capitalism’ are not inherent, they can be changed by changing the calculative mechanisms that constitute it’. Again, we are back to the political as something to do with capitalism. And I think there is a valid and still relevant debate about whether capitalism and climate stability can be realised with carbon pricing as a principal political response. The next section details the critical literature which reads political contestation over carbon pricing in these terms.

.. conflict over marketisation

We have now arrived at a summary of the critical literature on carbon pricing. It is placed last in this review not just because it serves my purposes of concluding with comments on the merits of a critical approach, but because it is relatively marginal in the broader social scientific discussions of carbon pricing. The critical writing on carbon markets comes from academics and social movement activists from a variety of social science disciplines, often working in heterodox political economy frameworks (predominantly neo-Marxist). Critics seek to challenge the economic theory and practice of carbon pricing, targeting the formalist economic assumptions that justify it. Further, there is attention to the social impacts and conflicts that have arisen since experiments in carbon trading began. Finally, there are neo-Marxist critiques of carbon pricing as part of a broader ‘post-political’ condition.

Like the poststructuralist work, critical scholarship tends to focus on carbon trading rather than other forms of carbon pricing e.g. carbon taxation. For instance, theoretical critique of ‘market-based’ climate policy can apply to all types of carbon pricing, but often focuses carbon trading (e.g. Spash, 2011). And more generally, it is common for

critics of carbon trading to advocate progressive carbon taxation as an alternative (e.g. Andrew et al., 2010; R. Pearse & Böhm, 2015; Reyes, 2014).

Overall, the politics of carbon pricing are understood as a contest over marketisation - a process of assigning a price to previously unpriced socio-ecological phenomena (Castree, 2008: 142). Here, assumptions tend to be snuck in about the motivations and practices of agents resisting carbon markets. I take issue with this, and suggest that recognising the diversity and ambivalence of struggle over marketised climate governance should be pursued with empirical precision, and theoretical revision.

The core political claim from critical economists, and other scholars engaged in debating economic theory is that the idealised model of markets of economics always fall short; they do not account for the political economy of emissions-intensive market society. British economist and former public servant in Australia Clive Spash (2010) observes that economic models informing carbon price design often ignore the considerable concentrations of power in any given marketplace, particularly in the fossil fuel-based energy sector.

In basic economic theory, firms are price takers who operate according to marginal production costs. However, powerful firms are able to mark-up pricing, engage in price discrimination and monopsony. Energy sectors are dominated by large national and multinational corporations able to deploy resources and lobby politicians to achieve institutional arrangements for carbon pricing that are suited to their own ends. A pattern of more 90% free permit allocation to major emitters is now discernible e.g. the EU, Australia, New Zealand, Switzerland, Norway, California, and Quebec.⁸

Critics contend that distributive impacts of carbon pricing create or exacerbate existing inequalities, and in turn political liabilities for governments instituting them. Stuart Rosewarne points out that the result of this rent seeking (and other factors such as price volatility and state decisions about revenue allocation) means that carbon pricing can come as a net fiscal burden to the state, discrediting the efficiency claim used to legitimate pricing in the first instance (Rosewarne, 2010). There is also a risk that carbon markets can have regressive effects (Gough, 2013a). Like taxes on consumption, cap-and-trade schemes applied to fossil fuels have an effect on both energy prices and on all other goods and services. As a result, the burden of carbon costs are disproportionately placed on low-income households since they spend more in real terms on goods impacted by carbon pricing, such as electricity, fuel and groceries. The inequality of carbon pricing is starker when considering the issue of windfall profits from over-allocation of permits is taken into account.

Critics have questioned the assumed economic rationality of the state vis-à-vis carbon pricing. In the case of REDD, economist Alain Karsenty has challenged the incentive-based framework which underlines its basic design (either as an offset program, or as a grant-funded payment for ecosystem services). The incentives framework depicts governments as rational economic agents taking decisions to implement REDD after weighing up alternatives. This ignores the historical and institutional barriers to

⁸ See Passey et al. (2012) for summary of scheme designs.

implementing and enforcing measures to tackle deforestation in postcolonial societies. 'Fragile states' in particular are often not in a position to make the decision to forgo rents from destructive industries within the largely unchanged political economy of global markets for minerals, timber, and palm oil (Karsenty & Ongolo, 2011). REDD programs in Papua New Guinea are testimony to this (Greenpeace, 2010b; Lang, 2010).

Equally fundamental, is the risk that REDD acts as a perverse incentive for rainforest nations to plan for major deforestation in order to attract REDD rents (Karsenty, 2009: 3). And at the local level, introducing monetary incentives for carbon reductions / sequestration may 'crowd out' motivations and behaviours that contribute to broader conservation outcomes in the short and long term (Corbera, 2012). In a number of cases, offsets have been shown to produce additional environmental and / or social problems. For instance, Heidi Bachram found water table depletion at the site of early forest plantations pilots in the World Bank Prototype Carbon Fund, and conflict over land access between the impacted community and officials (Bachram, 2004). Pilot offset projects from avoided deforestation and other land management practices have exacerbated issues surrounding land tenure for forest and indigenous communities in postcolonial states (Cabello & Gilbertson, 2010; Hall, 2008).

Beyond local experiences, problems have arisen with carbon market governance practice and institutions that put the goal of sustainable development with emissions reduction into question. A desk study of Project Design Documents created for CDM forestry offset projects showed that socio-economic assessments are frequently non-existent or lack detail (Corbera & Friedli, 2012). The limits to realising sustainable development extend to the broader institutional architecture. Joy Paton and Gareth Bryant (2012) observe that under the regulatory structure of the CDM national agencies are responsible for sustainable development. This makes sustainable development a separate, secondary process to calculating carbon reductions and monetary value that are the responsibility of UNFCCC agencies.

In regard to oversight, very limited accountability and transparency results from the complexity of carbon market governance (Lohmann, 2008; Spash, 2010). Power imbalances arise as a result. For instance, corporate operators who can aggregate their activity are best placed to benefit from participation in new markets such as REDD. In contrast, local communities who may take a once-in-a-life-time decision to participate in the carbon market are taking much greater risks (Munden Project, 2011).

The tension between social and ecological goals claimed by carbon market institutions runs deep. Reflecting on evidence from more than a decade of payment for ecosystem services (PES) schemes, Kathleen McAfee (2012a, b) has argued that in practice market efficiency criteria are commonly at odds with social development objectives. In fact, there is an underlying contradiction at play.

The more strictly the fate of ecosystem-service-producing land is determined by the logic of market efficiency, the more likely it becomes that environmental-services trading will reinforce existing inequalities in localities targeted for PES-based conservation or REDD/ REDD. Conversely, ecosystem-services projects designed primarily to support the poor will rarely meet market-efficiency standards. (McAfee, 2012b: 30)

In other words, to genuinely reconcile ecological, social and efficiency goals would void the economic instrument. McAfee (2012b: 30) wryly notes that intentionally designing institutions to channel benefits to the poor will introduce the very sorts of politicised decision making market mechanisms were proposed to avoid in the first place. These contradictory outcomes stem from the asocial logic of neoclassical economic thinking according to McAfee.

Critics observe that complex social (better, socio-ecological) realities do not match idealised assumptions about markets, states, individuals, and nature contained in economics textbooks. Environmental economics renders socio-ecological relations as economic relations. The discipline has literally refigured nonhuman nature *as* natural capital (see Costanza et al., 1998). In doing so, complex relations are treated as stable and tradeable units: tCO₂-e, a CER, an EUA, an AAU, and so on. In practice, carbon pricing requires conceptual separation of the social from the natural so that the latter can be quantified, priced, and circulated (McAfee, 2012b: 28).

Carbon trading, and particularly carbon offsets, assume physical equivalence between diverse points in the carbon cycle. However ‘serious non-equivalence prevails’ (Spash, 2010: 183). Numerous critics have pointed this out (Dooley, 2014; Lohmann, 2005; Smith, 2005). The most obvious example of this is the difference between pools of fossil, terrestrial, oceanic, and atmospheric carbon. Fossilised carbon that composes energy fuels, such as coal and oil, is produced over millions of years, becoming effectively inert. Other types of carbon have far less stable properties. For instance, carbon that is stored in terrestrial landscapes is part of the living carbon cycle where carbon is constantly transferring between inorganic forms (CO₂ in the atmosphere) and organic forms (plants, algae, animals etc.) influx over decades. Sequestering carbon into terrestrial ecosystems (land carbon sinks) through conservation projects will not remove it from the active atmosphere-land-ocean cycle. Put in the technical terms of carbon management, terrestrial offsets are vulnerable to ‘land use change’ and acts of nature such as bushfires (see chapters 3 and 6 for discussion of land carbon sinks in Australian climate policy).

Differences between greenhouse gases are profound in socio-ecological and political terms. The economic assumption that diverse elements of the carbon cycle can be measured accurately, quantified and parceled up into property rights denies scientific uncertainties (Lohmann, 2005). The controversy over measuring the GPW of HFC gases is testimony to the problems of measurement. Billions of dollars were transferred via the CDM in part because of the determination of this measure.

Spash (2010) argues that, nonetheless, institutions and experts involved in designing carbon market maintain the pretense that perfect knowledge of emissions sources and sinks will be delivered by further research and carbon accounting. Larry Lohmann (2005: 216) extends this with the issue of sinks. He observes that the impossibility of accurate aggregated quantitative measurements of emissions ‘removals’ by ‘carbon sinks’ are not recognised by UNFCCC parties or the IPCC. The abstraction involved in forming tCO₂e commodities means scientific unknowns are frequently suppressed (Lohmann, 2010: 237).

Since the first moves to establish carbon trading, critics have insisted that fundamentally, the institution of carbon offsets are not linked to any coherent emissions

reduction strategy because it permits continued emissions reduction in the North (Böhm & Dabhi, 2009; Lohmann, 2006). The problem of carbon leakage, is intractable with project-based offset programs like the CDM. Leakage occurs when an 'emissions reduction' in one location displaces emissions elsewhere. Leakage is often understood on the inter-state level i.e. in terms of unilateral climate policy. It also applies to offsets, where CDM projects reduce demand say for a fossil fuel commodity (e.g. oil) in one nation but leads to increased supply in another. Testing the cause and effect relationship of leakage is 'empirically elusive' and the actual relation is contextual; governed by relative supply/demand elasticity and the degree to which a given commodity is global (Rosendahl & Strand, 2011: 42). However the general point stands.

'Additionality' is also problematic. Additionality refers to assurance that emissions reductions from an offset project would not have occurred in the absence of an incentive from the carbon market. It requires project developers to establish that CDM finance makes the difference between a counterfactual future where the project would not have happened, and the reality put into place with it. Methodologies to derive environmental and financial additionality are complex. Empirical studies and a WikiLeaks cable referring to India have found substantial numbers of projects are likely non-additional (Newell, 2012; Schneider, 2007; Yan, 2011).

Further to this, flawed oversight mechanisms increase the likelihood of fraud. The CDM Executive Board delegates the supervision of CDM projects to private companies (Designated Operational Entities (DOEs)). DOEs are firms selected and paid by the project developer, and so have an incentive to favourably report on additionality and other criteria (Lund, 2010). Issues surrounding additionality and market oversight support Lohmann's (2009a) contention that tCO₂-e as an un-regulateable commodity. He argues that corruption is not reducible to the misdeeds of individual entrepreneurs, but the logic and architecture of carbon markets themselves.

New social and political relations arise via carbon market practice. There are a few different strands to the critique of carbon pricing politics addressing these shifts in detail. The first attends to elite political authority and society. New managerial systems (re)produce technocratic elites, and new 'zones of ignorance' develop (Lohmann, 2008, 2009b, 2010).

.. the cloud of jargon that is inevitable with the highly centralized, quantification-heavy regulatory apparatus that constitutes carbon trading keeps even many journalists and environmentalists ignorant about how little governments and the UN system are actually doing about climate change. Few members of the general public have any inkling of how far the attempt to set up a giant global carbon market has gone, much less of the meaning of carbon market acronyms and technical terms such as additionality, model rules, meth panels, supplementarity, leakage, AAUs, CERs, ERUs, DNAs, DOEs, NAPs, PDDs, AIEs, SBIs, SBSTAs, COPs, MOPs, COP/MOPs and so on. (Lohmann, 2008: 363-364)

The effect in Lohmann's view is suppression of political discussion and a quelling effect on the kind of movement mobilisation that the climate crisis calls for. In a similar vein, geographer Erik Swyngedouw (2010) has argued that carbon markets are associated with a style of 'post-politics' that renders 'carbon' as a problem to be managed by experts. He contends that apocalyptic crisis talk about climate change articulates a meta-imperative to deal with CO₂ as an asocial universal enemy. This

cancels out political identification and attention to the material conditions underpinning social relations in the Anthropocene (Catney & Doyle, 2011; Swyngedouw, 2010). The managerial logic in carbon market administration renders decision-making as a question of expert management and not of political relations (Swyngedouw, 2010: 225). Lohmann has made a similar point about the construction of CO₂ molecules as an apolitical object without history.

carbon market's use of them in disembedding climate change from the history of fossil fuel use and re-embedding it in the movements of molecules emitted 'by' bounded nation states and corporations is accordingly an ideological as well as an economic operation. (Lohmann, 2012a: 100)

There is reason for caution with this critique. Swyngedouw offers an over-determined account of the social dynamics of climate politics. Recourse to a former 'properly political' time is not defended by the authors using this argument.

Further to this, a grounded analysis of the political contribution of experts to climate policy processes and social movement response to climate change is missing in Swyngedouw's climate politics thesis. We might establish that experts and environmentalists tend to either reflexively or naively seek a post-politics, but this is different from asserting they can ever achieve their goal. Swyngedouw seems unaware of the array of political subjects emerging in climate activism of various stripes, particularly the politics of 'climate justice' (see Chatterton et al., 2012; Urry, 2011) and of the ongoing lack of consensus with regard to climate science and policy in North America (McCarthy, 2013).

The very practical antidote to this limitation I argue, is to embark on empirical study of experts engaged in policy negotiations (see chapter 4 and 5), and political activism vis-à-vis the politics of carbon pricing (see chapter 7 and 8). In doing so, the spirit of my analysis is historical. Rather than assuming a radical departure from the properly political past, I inquire into 'the recurring ways in which capitalist modernity consistently creates and frames environmental "problems" and "solutions"' (McCarthy, 2013: 22). A perhaps more conventional reading of carbon pricing politics is that it continues to be invoked as an instrument of economic efficiency. Most importantly, these idealised claims have been subject to an ongoing ideological contest. Regulatory instruments are 'not neutral either politically or ideologically. They play to specific groups within society' (Spash, 2010: 178). As Kate Ervine summarises carbon markets are political creations, constituted by the constellation of social forces that dominate them (Ervine, 2013). How to conceptualise these social forces and the struggle between them is often a fuzzy and hotly contested point between critical writers.

There has been some discussion of the ontological status of carbon markets in debates in the critical literature about whether they can contribute to decarbonisation. Paterson and Newell (2012: 1172) argue that at least in principle, fractions of capital can be enrolled in a project of decarbonisation. They leave open the possibility for effective alliances between business (particularly the financial services sector) and environmentalists. In response, Lohmann (2012b: 1182) has insisted that the contradictions of carbon trading along with its social impacts create insurmountable obstacles to building coalitions between business and environmentalists.

Whilst they draw different political conclusions, what the three scholars agree on is that there is no ‘abstract essence’ to carbon trading markets (Lohmann, 2012b: 1180; Paterson & Newell, 2012: 1174). Lohmann (2011: 95) goes so far as to say that ‘over time, it becomes obvious that there is no single, settled explanation of what carbon markets are for’. Carbon trading is neither a coherent strategy for decarbonisation, nor is it opportunistic ‘greenwash’. Rather, it is long-familiar process where business responds to recurrent crises it produces as a basis for further accumulation (p. 113).

Lohmann’s views are an insightful, but somewhat evasive, analysis of political contestation over carbon markets. On the one hand, Lohmann gives us a sense of the expert economist’s policy incoherence and the poststructuralist theorist’s hybrid assemblage, and on the other hand he offers an historical argument about the enduring conflict over marketisation typical of capitalism. This historical account does not recognise the state as an arena of contestation; instead carbon markets are the instrument of capital. Below I briefly further outline historical arguments of Lohmann and others to point to where I think there is more work to be done.

It is very common in the critical literature for scholars to depict political conflict over carbon pricing, particularly carbon markets, as a new frontier of marketisation. Lohmann and a number of others have read carbon markets in light of Karl Polanyi’s (2001[1944]) work on the transition to market society in Europe at the turn of the 20th century. That is, the common observation made is that carbon trading involves the construction of a ‘commodity fiction’ through utopian efforts to separate parts of the carbon cycle out from society, in order to place it under the direction of the price signal (Bond, 2012a; Lohmann, 2010; R. Pearce, 2013). These efforts at marketisation through climate policy are understood as catalyst for counter movements for social protection.

Interestingly, there are different emphases in the political analysis drawing on Polanyi. Many analysts consider carbon pricing as phenomena of state regulation, drawing on Polanyi’s insistence that all markets rely on political institutions (Lederer, 2012b; O’Hara, 2009; Spies-Butcher, 2010; van Griethuysen, 2011). Bumpus and Liverman (2008: 131) argued that carbon markets can be read as ‘discursive and material response to public concern and pressure for regulation’. In this sense, carbon markets are *both* a force for marketisation and a force for protection. The logic of carbon trading is *internally* contradictory (see chapter 2). Subsequent revisions to the market, for instance improvements to offset standards, can be read as the state keeping fictitious commodities in check (Bumpus & Liverman, 2008: 146). Capital also takes on the task of managing these legitimisation crises, for instance through the development of voluntary carbon offsets standards (Paterson, 2010).

In regard to contestation, there is a tendency to point to one strand of resistance – the ‘climate justice’ movement. Bond argues the diverse movements engaged in direct action against fossil fuel extraction are the second half of the double movement. He interprets them as advocating ‘national command-and-control emissions reduction strategies plus public works investments and regional/local utility and planning controls’ (Bond, 2012a: 686). Lohmann (2010: 226) provides a less neat depiction of resistance as ‘more or less fumbling attempts at societal self-defense’. Neither critique addresses the diversity of resistance in theoretical depth. There is ambivalence in social responses to carbon pricing, from public concerns about energy prices to ‘climate scepticism’ and a series of political dilemmas facing activists (see chapters 7 and 8).

Whilst I am sympathetic to Bond's interpretation of movements, I believe we should be wary of interpreting all social movement activity as indications of a single political or policy platform. Even under the banner of 'climate justice' there is incredible variety and mostly productive tensions playing out in movement practice. In chapter 8, I propose the agenda for direct regulation and democratisation of energy is *implicit* in social movement mobilisation on climate and energy issues, but is far from having the status of a coherent shared vision.

The Polanyian political dialectic these critics work with is compelling, but fuzzy. In part, this stems back to ambiguities in Polanyi's work (see Dale, 2012). In another way, these vagaries of political terminology and judgments reflect the novel historical moment climate crisis presents, and the novelty of 'carbon commodification'. Not much work has been done to revise Polanyi's work for application to the climate crisis. Two assumptions occur often in climate change social science: 1) carbon markets are a strategy for accumulation and therefore the conflict derives from commodification of the carbon cycle, and 2) resistance to carbon pricing is adequately captured with the concept of 'social protection'. To be critically useful, a Polanyian conceptualisation of conflict over carbon pricing must do away with these assumptions. Polanyi's notion of social protection rests on a sociological claim that diverse resistances to marketisation (from big business to unions to rural peasantry) play similar roles in conflicts. It therefore doesn't take us much further than the rigid roles set out in public choice theory, or the FME critique.

Working on these issues in the next chapter, I develop a neo-Polanyian theoretical framework. I seek to explain the failure of carbon pricing in terms of the state's faltering strategies for managing climate crisis, whilst also attending to the diversity of agents engaged in political contestation.

Conclusion: Towards a political economy of carbon pricing

All students of carbon pricing politics insist that we need to clarify what is being contested in conflict over carbon pricing; who/what is involved, why, and with what political and material consequences. The different approaches to generating answers to these questions have together produced a wealth of knowledge. There are also marked differences in emphasis and answers produced. In some cases, there are competing definitions of the same phenomena. For instance, interest in experts and political entrepreneurs is a common theme in all perspectives. However, terminologies, normative attitudes and assumptions about these actors vary.

Across the field, there is also evidence that scholars are interested in related, but quite different phenomena all together. For instance, both political scientists and scholars working with poststructuralist ideas focus on 'how' questions, but with key differences. Political scientists attend to a fairly traditional site of politics (negotiations within bureaucracies, with corporations and civil society), whereas the latter focuses on a diversity of quite 'local' practices of knowledge production with a particular focus on different technologies (carbon offset project sites, electricity metres used by a university, CarbonExpo meetings and more).

This sketch of the intellectual history of marketised emissions management and contemporary political debate about carbon pricing has set out the key empirical

insights and divergent theoretical claims in the field. We have found that most often scholars work with implicit definitions of carbon pricing politics, which derive from a diversity of intellectual frameworks. By implicit, I mean that people rarely make definitional statements about ‘the political’. Rather, they demonstrate what they mean by it through the informal commentary, key concepts and explanatory logics they use (e.g. policy entrepreneurs and agencements). In the scholarship itself we can observe political contestation, from commentary directed toward sceptical environmentalists, to debates within the critical literature over the interests carbon pricing serves, and the prospects for harnessing these social forces for genuine decarbonisation.

The first theme identified is an implicit outlook on the politics of carbon pricing as the result of competing rational actions taken by agents within the state, business and NGO sector. This comes from experts in economics, law and policy who apply themselves to the task of emissions management. A public choice view of politics is the explanation frequently used by these actors to explain persistent gaps between economic theory and practice of emissions pricing policies. Ultimately politics presents as an obstacle, or set of treacherous dilemmas in the way of effective policy design. Experts frequently name ideology and extra-political conflicts but perhaps unsurprisingly, there is no theory of the political in terms we concern ourselves with in the social and political sciences. Overall, the picture of politics provided by experts is politics as an obstruction to good, coherent policy.

The next prevalent theme of carbon pricing politics considers politics as a process. A great deal of political science thinking interprets climate policy processes as involving innovation and diplomatic negotiation, wherein policy entrepreneurs within state and inter-state agencies, business groups, and civil society carry new ideas for carbon pricing from one institutional setting to another. Whilst this tradition in political analysis can be rationalist, there are examples in the field that attend to power dynamics. Neo-Gramscian scholars focus theoretical attention to the strategic positioning and negotiation of business groups and NGOs. Here the ascendance of market mechanisms for emissions management is read as a ‘passive revolution’ from above. Ultimately, these works imply carbon pricing is *an outcome* of politics which is understood as an integral feature of capitalist society.

A third theme is a more diffuse notion of politics beyond formal political processes. Here social and political scientists informed by poststructural social theories give attention to the heterogeneous relations and practices involved in assembling carbon markets. Agency is found in networks that can only be discovered from first principles. Empirical attention is directed away from policy (with the exception of Jan-Peter Voß) toward practices and technologies of carbon market assemblage. Indeterminate carbon market assemblage is politics. Where this work falls down is its hostility to normative (and/or empirically grounded) claims about the interests carbon market serve and their impacts. It is born of a healthy disrespect for grand-narratives and unfounded generalisation. However, scholars in this field seem to operate with a naïve view of capitalist social organisation.

At this point, it is important to note again that different normative views are visible across the entire field. These include strong claims for carbon pricing (particularly among experts), against carbon pricing (critical scholars), and different perspectives that deliberately take the decision not to ask ‘ought’ questions, preferring to focus on ‘how’

questions (most common among political scientists and scholars working with poststructural ideas). My own view on this is that normative judgments are an important part of scholarship, including decisions about what phenomena to investigate. The decisions taken in this project combine the critical theoretical interest of political economists with an empirical focus on agents engaged in public politics, normally the strength of political scientists. The next chapter fleshes out the framework used in this project.

Finally, the critical literature addressing carbon pricing often works with a dialectical theory of contestation, and is drawn from variants of Polanyian-Marxist political economy. The political and intellectual contest these scholars engage in involves denaturalising mainstream economic theory's account of the market as self-equilibrating. Critics contest the reductive view of nonhuman nature, its inattention to concentrations of power in the market place in environmental economics, and the contradictory and sometimes fraudulent institutional practices underpinning carbon trading. I believe these theoretical and substantive criticisms of different types of carbon pricing are still hugely important. Too often in climate politics, market mechanisms are asserted to be efficient and effective, rather than proven to be so. Whilst it is old ground to cover, these critiques are crucial if we are to understand the failures of carbon pricing once the theory is turned into practice.

The dialectical theory of politics conveyed by critics is not well developed. The example of Polanyian political economic thinking is a case in point. Here, I have identified key areas for more in-depth theoretical development. Attention to the political economy of the state is missing in critical analyses (and many other perspectives). Insights from political science work on carbon pricing politics are useful here, as well as more general political economic debates about the state and global environmental change. Closer attention to the details of contestation and agencies involved in pricing resistance is also necessary. There are two areas where I think this is key. The broad, diverse and ambivalent social responses to carbon pricing must be investigated in sociological detail. Further, the agency of 'nature' must be taken into account. The approach developed in the next chapter does not subscribe to the flat ontology of ANT, but rather a dialectical account of capitalist social organisation as developing through nature.

2 The political economy of carbon pricing

A framework for analysis

Introduction

The previous chapter argued for a political economic perspective on carbon pricing. Specifically, a heterodox broadly neo-Polanyian political economy approach provides analytic tools to investigate the power relations and systemic ‘contradictions’ expressed through climate policy. This approach reveals the inexorable link between market regulation, political contestation, and the contradictory dynamics of capitalist social organisation. I outline these general insights below, and argue more theoretical and empirical inquiry is needed in regards to the following: the role of the state in (mis-) managing climate crisis; the precise forms of marketisation involved in climate policy; and the dynamics of contention between diverse agents in the struggle over carbon pricing.

Carbon trading is commonly understood as a form of marketisation that expresses the contradictions and conflicts defining market society. In many ways, this outlook is a general observation about capitalism and its crisis tendencies. Capitalist markets are inherently unstable and prone to diverse forms of political struggle. Contention over markets in turn shapes their dynamics and institutional forms. In the case of climate mitigation, contestation has led to the search for ‘market mechanisms’, and then unruly disputes over whether and how to price carbon.

Beyond these general observations, we need to be more specific about the contradictions of carbon pricing. Putting a price on carbon, either as a tax on emissions or as a carbon trading scheme, is a form of marketisation. Carbon pricing raises the questions: What kind of marketisation processes are we looking at? What political economic dynamics shape the institution of carbon prices? I outline a framework that

attends to the broader environmental contradiction of capitalist society and the particular dilemmas and instabilities underlying marketised climate governance.

The chapter is divided into two main sections. The first section outlines the dynamics of conflict over climate change in capitalist society. My focus is on the contradictions of capitalism as it develops through human and nonhuman nature; the role fossil fuels have played in the historical development of market society and its climate crisis; the state as a site of contestation; and environmental regulation as a fundamental part of capitalist social organisation.

The second section outlines the dynamics and contradictions that are particular to carbon pricing instruments. Here I introduce the global dimensions of marketised climate governance, arguing that the ascendance of governance as an organising logic for climate mitigation does not resolve capitalism's contradictions. Rather it rescales regulation and creates new sites of contestation and failure. I also emphasise the role of the state in marketised climate governance and the distributive dilemmas that carbon pricing produces, in particular the potentially regressive effects in domestic economies. This creates political legitimisation issues for Western democratic governments. Finally, I draw on the idea of competing economic imaginaries in order to conceptualise the normative dimensions of instability and political failures of carbon pricing.

Climate change and capitalism

This thesis builds on the established field of critical political economic thinking about climate change and capitalist society. Marx's value theory and Polanyi's critique of the transition to 'market society' illuminate the disruptive socio-ecological consequences of ever-expanding capital. Thirty years of revision and debate have refined and developed this insight in a number of important directions. I pick up on two contemporary lines of thinking here. One is the more expansive definition of eco-social conflicts in capitalist society beyond the capital/labour contradiction, and the other concerns the specificity of fossil fuels to capitalist society and its 'climate crisis'.

Capital and society-nature

The debates on society-nature relations in Polanyian and Marxist environmental political economy underpin the approach of this thesis. Below I provide a brief introduction to insights from applications of Marx and Polanyi to the understanding of environmental crisis.

Marx (1981) perceived that under capitalism land and other resources are seen as 'gifts of nature'. In other words, capital appropriates nonhuman nature and in the drive for endless accumulation, and more and more nature is harnessed with each unit of socially necessary labour time. Contemporary Marxist ecological economics has built on this foundation and argued that ecological problems stem from capital's valuation of nature in terms of social labour time, and ignoring the intrinsic (use-value) of nature (Burkett, 1996: 341).⁹ A common metaphor for nonhuman nature has been as a 'second'

⁹ Marx defined three types of value. Use-value is the usefulness of a commodity, determined by a

biophysical feature of capitalism. Furthermore, Altvater (2007: 38) has argued that capitalism has a 'double character'. Capital seeks monetary value which is assigned to commodities, world trade, gross domestic production, financial flows, and so on. Capital's nature-blind value calculations have enabled the appropriation of nonhuman nature (animals, plants, minerals, land etc.). 'Natural' or 'non-human' phenomena are elements of the conditions of production appropriated through capitalist production.

Ecological Marxists contend that economic calculations concerning production are based on a rationality that creates a false split between the market and nature. There is a contradiction between use-value and exchange-value in capitalist appropriation of nature. Put another way, Marx's value theory demonstrates a contradiction between the 'natural distinctiveness' and 'economic equivalence' contained within the commodity form (Burkett, 1999). A tension emerges between the accumulation of value and the sustainability of socio-ecological relations capital relies on to realise profit. Taken too far, crises occur.

This is similar to Hungarian economic historian Karl Polanyi's (2001[1944]) critique of the transition to capitalism. Polanyi argued that 'market society' is characterised by the utopian pursuit of 'disembedded' market relations. Polanyi's term 'disembedded' was a normative assessment of efforts to progressively subject more human and extra human relations to market mechanisms during British industrialisation. He used the term 'fictitious commodities' to conceptualise land, labour and money - commodities he argued were not produced for market. These commodity fictions were flashpoints of conflict during the arrival of market society in the 18th-19th century. Market society, according to Polanyi, involved a qualitative break from previous modes of social organisation. This break was characterised by a new artificial separation between 'economy' and 'society', and between 'economy' and 'ecology'.

Polanyi was prescient in anticipating the eco-social consequences of this shift. He argued that a fully self-regulating market is a utopian impossibility, and that efforts to marketise new areas of life would tear the socio-ecological basis for civilisation apart.

Such an institution could not exist for any length of time without annihilating the human and natural substance of society; it would have physically destroyed man (sic) and transformed his surroundings into a wilderness. (Polanyi, 2001[1944]: 3)

A socio-ecological view of market society is visible in Marx's and particularly Polanyi's work. This theme has been developed by James O'Connor (1998), who contended that the expansion of capitalism depletes the 'conditions of production' necessary for capital accumulation. The 'conditions of production' are the social, material, environmental phenomena necessary for the reproduction of capitalist social

commodity's qualitative characteristics and material form. In contrast, exchange value is a quantitative relation. Marx argued that 'as use-values, commodities differ above all in quality, while as exchange-values they can only differ in quantity..' (Marx, 1976[1867]: 128). He concluded that the abstraction involved in deriving exchange-value can only be determined by a property common to them both: the labour time socially necessary to produce each of them. Marx called this a third thing, value. Capital is value in motion.

relations (they include animals and ecosystems as well institutions like schools which capital relies on to produce labour power but does not directly produce). In a nod to Polanyi, O'Connor argues that because land, water, animals and the like are not produced as commodities they are 'under-produced' (i.e. commodity fictions). As conditions of production are compromised, the costs of capital accumulation increase and in turn give rise to a crisis of under-production. O'Connor called this the 'second contradiction' of capitalism.

This thesis is also indebted to more recent developments in the political economy of society-nature relations which have refuted claims that green Marxism is necessarily dualistic (Castree, 2002). Dualism in this case refers to concepts that imply an ontological split between society and nature. Employing a world systems theoretic approach Moore has made gains in a non-dualistic theory of capitalism as an ecological regime. That is, capitalism is not a 'social' force acting on external nature, capitalism develops *through* human and extra human natures.

Ontologically speaking, historical capitalism emerges through the dialectic of the accumulation process and nature–society relations. (Moore, 2011: 34)

Moore describes a world historical process of dialectical change, where in one movement, nonhuman nature is internalised as human labour power, and at another it is externalised as a free gift (p. 12).

The production of nature.. is constitutive of capitalism's inner logic – the contradiction between monetary value and use-value, between nature as labor power and nature as resource, between competition for endless gain and cooperation for necessary survival. (Moore, 2011: 18)

He explains value is a 'deep structure' of historical capitalism which mobilises extra-human nature, giving priority of labour over capitalised conditions of production (p. 20). Practically speaking, a concept of capital as moving *through* society-nature relations expands the list of phenomena of interest to political economists (p. 4). The ecosocial dimensions of all types of market phenomena are important topics e.g. agribusiness, CO₂ emissions, the trade agreements, currency crises and so on.

This thesis also draws upon the insights of heterodox political economists working in geography who have argued that the materiality of nonhuman organisms and ecosystems co-constitute capital accumulation in a variety of ways (e.g. Bakker, 2003b, 2010a; Castree, 2010b; Mansfield, 2007). Nonhuman nature can act not only as a gift to capital, but also as a barrier to accumulation, or mediating phenomena. As Karen Bakker (2003b) puts it, some elements of nonhuman nature are more 'cooperative' than others with processes of privatisation and commodification.

The overall point is that not all 'nature' is the same; the role of specific human and non-human phenomena involved in capital accumulation require focused empirical and theoretical attention. In chapter 6, I discuss the specific failures of carbon pricing in different sectors. With examples from the domestic electricity market, land sectors in Australia and the Asia-Pacific, I trace contrasting socio-ecological relations and therefore contrasting arenas of contestation, and governance mechanisms involved.

More broadly, this thesis attends to the material and symbolic importance of governing ‘carbon’. Under carbon trading and offsetting, carbon rights are most often tradable licenses or rights to emit greenhouse gases. They are instituted as a layer of governance additional to existing modes of regulation for a diverse set of industries from manufacturing and energy production, to forestry, agriculture, waste management and so on. I argue in chapter 6 that carbon pricing has developed in such a way that it exacerbates pre-existing governance failures in electricity and land sectors.

The centrality of fossil fuel energy in market society

Understanding the specific role that fossil fuels have played in market society is central to developing a political economy of carbon pricing. In biophysical terms climate change is a major disruption to the global carbon cycle. The carbon cycle spans the Earth’s biosphere, and carbon is a fundamental element of all life on Earth. Carbon moves through organic and inorganic matter, through the air, land, water, and all living organisms. However since industrialisation, a staggering amount of carbon previously stored in land ecosystems and fossil deposits have been extracted, burnt and dispersed into the atmosphere – what we now know as excess greenhouse gas concentrations triggering climate change.

Ecological Marxists have demonstrated that the global ‘energy shift’ from human reliance on biological (wind, water, muscle) to fossil energy contained in the Earth coincided with the generalisation of capitalist social relations (Altvater, 2007; Huber, 2009). Wage labour was made possible by the huge expansion in productive capacity associated with large-scale, fossil fuel-based industrial production (Malm, 2013). The biophysical properties of fossil energy enabled the disembedding of market society from the carbon cycle. Coal and other fossil fuels are energy dense and geographically mobile, allowing a marked shift in the British, then global, mode of production. As Altvater observes:

fossil energy can be used 24 hours a day and 365 days a year with constant intensity, allowing the organization of production processes independently of social time schedules, biological and other natural rhythms. Fossil energies can be stored and then consumed without reference to natural time patterns, in accordance only with the time regime of modernity and a timetable that optimizes profits (Altvater, 2007: 41).

Expanding on this point historically, Altvater argues that the combustion of fossil fuels combined with an ensemble of transformations, including European rationality (and colonisation), the dynamics of money as capital’s social form, and the disembedding of the market from society, producing what Polanyi (2001[1944]) called ‘the Great Transformation’.

Of course, societies across the globe are now faced with the consequences of fossil fuel capital. Atmospheric concentrations of greenhouse gases have increased exponentially in a short period of human history. Carbon dioxide (CO₂) concentrations have increased by 40% since pre-industrial times, primarily from fossil fuel emissions (IPCC, 2013). Fossil fuel energy consumption – the major cause of climate change - continues to balloon. Current rates of fossil fuel combustion imply a long-term temperature increase of 3.6°C or more (IEA, 2013: 26). As a result, the Earth’s ecological and geological

systems are shifting out of 10,000 years of relative stability into a much more unstable climate (Rockström et al., 2009).

Fossil fuel energy production and consumption is at the heart of the climate crisis. It is estimated that for an 80% probability of staying below a 'safe' 2°C of temperature increase, the world's 'carbon budget' to 2050 is equivalent to 900 gigatonnes of carbon dioxide (GtCO₂). A massive redirection, if not dissolution, of fossil fuel-related capital would be needed to make this a reality. Fossil fuel production and consumption is behind 67 per cent of greenhouse emissions. It is estimated that 200 of the world's largest fossil fuel firms have investments in undeveloped fossil fuel resources equivalent to 1541GtCO₂ putting the world on track for 'dangerous' climate shift, and well and truly burst the 900 Gt limit (Leaton et al., 2013). Major reforms are needed to ensure the transition to different forms of energy is smooth and fair. Meanwhile, any 'post-carbon' society, whether capitalist or not, would involve radically different market and socio-political institutions.

The energy problem underlying climate change is more than a technical issue; it goes to the core of how energy-society relations are institutionalised in market society. Huber (2009: 113) argues that when fossil fuels are seen as internal features of the social life of capitalism we come to see uneven power relations that shape control and access to the world's energy systems in a different light. They are expressions of some of the most significant contradictions of 'fossil fuel capitalism'. The prospect of energy transition creates new dilemmas. A socially just reorientation of the productive power of societies across the world is not guaranteed and would require the democratisation of energy (ibid.).

A number of empirical questions flow from this. For instance, how do states deal with their historical commitment to providing for fossil fuel production and consumption when, or if, they are moved to institute climate policy? What distributive impacts do climate policies have on fossil fuel capital and energy markets more generally? I take these questions up in regard to the Australian case arguing that governments on all levels have provided essential support for the fossil fuel industries. These activities are administered parts of the state historically oriented toward industrial and extractive industry regulation go largely unreformed by climate policy administered by agencies that are comparatively new and more politically marginal (chapters 3 and 6). For now, the key point is that fossil fuel dependence has emerged as an integral feature of the historical development of market society. Capitalism's energy question is never far away in climate policy debates. In recent times, counter movements have mobilised in ways that place fossil fuel capital further into the centre of contestation. This can be read as partially a consequence of climate policy failure in Australia (chapter 8).

Climate change and conflict in market society

Conflicts over the role of markets in society and the mediating role of the state are key concerns for political economy. Polanyi observed that unruly 'counter movements' responded to market expansion in the transition to market society. This compelled the state to reconfigure markets in order to manage disruption. Polanyi's (2001[1944]: 147) famous dictum, 'laissez-faire was planned; planning was not', suggested that whilst governments have historically been instrumental in the expansion of markets, they also respond to reactive counter movements by limiting or compensating for marketisation.

The social backlash he documented in Europe during capitalist transition included the rise of trade unions, new political parties, farmers, business groups, as well as independence movements in colonised societies. Polanyi distilled this diversity of political struggle into a unitary concept of ‘protection’. He contended that counter movements mobilised in response to marketisation, and summarised the conflict in a two-sided metaphor of ‘double movement’.

Polanyi offered a broader social theory of political struggle in capitalist society, beyond the capital/labour contradiction Marx had been focused on. However, his concept of counter movements was underdeveloped. His analysis ultimately portrayed counter movements as natural or automatic reactions to the extension of markets, and did not pay sufficient attention to the mediations which play out between marketisation as an historical pattern, and actual historical movements in Europe and in postcolonial societies. Furthermore, there is a great deal of debate over the meaning and explanatory power of Polanyi’s ‘double movement’ thesis (see Dale, 2012).

Some scholars read the double movement as a functionalist metaphor for capitalism’s resilience, a kind of release valve where movements for protection serve the purpose of ‘socialising’ market institutions, ‘re-embedding’ them in society (Block & Somers, 1984). Others, including Polanyi’s family members, have argued the double movement is best understood as an enduring pathology or contradiction of the capitalist system that must be overcome (Dale, 2012; Lacher, 1999). I am persuaded by the latter interpretation. That is, Polanyi’s ideas capture the enduring contradictions of market society. The double movement is best understood as dialectic that energises the play between crises and their temporary resolution.

Given these limitations to Polanyi’s thinking about political contestation, there is further theoretical and empirical work to do. Unrevised use of the concept ‘double movement’ to theorise contemporary climate politics can end up being imprecise about the specific contradictions of marketisation in climate governance. Below, I delve deeper into the particular contradictions of marketised climate policy, arguing that these go some way in explaining the unruly contest which has been waged over carbon pricing. I also emphasise the need to explore the motivations, strategies and imaginaries of political movements for and against marketisation in sociological depth.

There are other lines of thinking in critical political economy and social theory that inform my approach to the politics of carbon pricing. Ecological-economic crises do not automatically follow from an ‘objective’ origin in the economic system wherein the law of value determines crisis points, contraction or depression. Crises are inter-subjective phenomena that may reflect social and political practices that disrupt existing norms and mechanisms of rule (Habermas, 1976; O’Connor, 1981). In other words, ‘there is no crisis without someone to call it’ (Prudham, 2005: 21). There is no uniform direct link between any crisis and its political articulation. In highly charged national debates over climate change policy, the state responds to subjectively defined ‘identity crises’ rather than the underlying contradiction (Habermas, 1976: 45). Furthermore, at the level of both perception and actuality, crises are heterogeneous, always experienced differently across different elements of society (Castree, 2010a; McCarthy, 2012). They might also result in an interregnum that enlivens only ‘morbid’ symptoms in place of a dying order (Bauman, 2012; Gramsci, 1992: 276).

The view I take in this project is that whether and how crises are managed, or mis-managed, is an empirical question. And the state continues to have an integral role in mediating conflicts. In liberal capitalist societies the state has conflicting imperatives: to provide conditions for economic growth in the short term, and for social/ecological sustainability in the long term (Hay, 1994, 1996). This contradiction creates a bind for the state (see Davidson, 2012). In response, or anticipation of legitimisation crises, the state intervenes, attempting to resolve the issue and maintain conditions of production.

In chapter 3, I develop Colin Hay's observation that in response to global environmental crises, the state has a number of crisis displacement strategies available to it. Using historical evidence of Australian climate policy decisions and secondary sources, I illustrate that marketised climate governance has co-constituted displacement strategies in climate policy design. Core definitions of the goals of climate policy, as well as temporal and spatial responsibility displacements through internationalised carbon trading law, has served a national protection agenda for narrowly defined energy and industrial interests (see also chapter 6).

Importantly, these displacement strategies have evolved through and beyond the dynamics of inter-state competition. As discussed in chapter 1, marketised climate governance is a 'global' political project that is constituted through UNFCCC negotiating fora as well as a host of entrepreneurial and political initiatives, partnerships, and pilot carbon market projects created by public and private actors. Nation-states operate within heterarchic governance processes. A key dimension of marketised governance 'beyond' the state is technocratic norms and the rise of experts as agents of political compromise and 'apolitical' advice.

Evidence of continuity in state strategy in climate regulation is not to say, however, that the state's response is predictable or unitary. As O'Connor argues, an orthodox, functionalist account of the relationship between state policy and the conditions of capitalist production is not sustainable. Because the capitalist state is a bureaucratic state established within a formerly democratic system; it is 'relatively autonomous'. The state is a diverse institutional ensemble, minimally made up of a territory, apparatus, and population. O'Connor (1998: 150, 152) explains the state is 'subject to its own internal tendencies and contradictions' and therefore has 'complex and unintended consequences'. It will not smoothly or uniformly serve the collective interests of capital; and this is an impossibility in light of competing interests of fractions of capital.

In this thesis the state is conceived as an institutional ensemble comprising minimally of a territory, apparatus and population. This approach borrows from Jessop's strategic-relational theory of the state as a complex social relation. Jessop works with a concept of state power, rather than the state per se (Jessop, 2008, 2014: 485). The state has no fixed agency, but does exhibit action-relevant capacities and biases. The balance of forces and normative ideas about the nature and purpose of state power shape these biases. State projects are attempts to cohere heterogeneous powers and resources that are enacted *as if* the state is a unitary entity. The state's unity 'is at best partial and the constantly evolving outcome of unifying tendencies and dis-unifying counter-tendencies' (Hay, 2014: 477).

Environmental conflicts concern the economic and non-economic costs of capitalist accumulation that frequently invoke the mediating role of the state. Environmental

policies are an outcome of conflicts, and struggles waged by a diversity of agents and subjectivities formed in response to ecological problems and in the process of resistance (Vlachou, 2004: 928). State regulatory responses to environmental issues are a constitutive element of capitalism.

state policies towards nature and the ecological changes initiated in capitalism are not 'external or artificial' barriers to capital. They are the outcome of internal processes and also constitutive elements of capital as a social relation. (Vlachou, 2004: 928)

Intermittent conflicts, and fits and bursts of regulatory action, are the norm. But the question of whether or not environmental regulations are on capital's terms is an empirical question, not something we can discern a priori (ibid.). As Vlachou has argued, even if environmental regulation is on capital's terms, that does not mean we should assume that adjustments through regulation won't contribute towards an ecologically sustainable capitalism (sustainable is narrowly defined here, and likely still unjust).

There are however, a number of contradictions that can play out through environmental regulation. Environmental regulations may be enacted by reduction in real wages of workers and environmental burdens passed on to the South. With this in mind, the next section outlines the contradictions of carbon pricing in practice. I will argue that the particular contradictions of marketised climate governance render it a weak means for the management of emissions and political contestation.

The contradictions of carbon pricing

Drawing on this general account of capitalism, I now move to outline a framework for thinking about the particular contradictions of and conflicts over carbon pricing. In developing a political economic analysis of carbon pricing, I begin with the global dimensions of marketised climate governance. The project of carbon pricing has been instituted and legitimated through the internationally networked activities of expert and business elites. The arrival of a globally networked constituency legitimating carbon pricing is an important feature of the political economy of marketised climate governance. However, state power and national territoriality remain key features of carbon pricing.

I argue that the fraught dynamics of marketised carbon governance reflect the contradictory demands on the state in capitalism and the contradictions of market instruments themselves. Carbon pricing is part of an attempt to manage tensions between the state's historical role in providing for fossil fuel-based accumulation and climate protection. The contradictory logic of carbon pricing creates distributive dilemmas, and in turn legitimation issues for Western governments. More generally, the failures of carbon pricing are a challenge to technocratic norms and experts as agents of reform.

Technocracy, territoriality and governance failure

Seeing carbon pricing schemes as instruments of governance, rather than markets in the idealised economic sense, provides a means to investigate the failures of carbon pricing in their institutional and socio-political complexities. Further, it allows us to identify

carbon pricing as part of a technocratic vision of statecraft. The failures of marketised climate governance are substantive (stemming from the contradictory logics described below) and political (stemming from the limits of technocracy as a political solution to the challenge of legitimating climate policy). The definition of governance and governance failure I develop attends to the augmentation, not disappearance, of contradictions and dilemmas associated with capitalism.

Governance is broadly understood as an ongoing process of managing human affairs, inclusive of, and ‘beyond’, the actions of nation-states. The Commission on Global Governance defined governance as inclusive of ‘formal institutions and regimes empowered to enforce compliance, as well as informal arrangements that people and institutions either have agreed to or perceive to be in their interest’ (Commission on Global Governance, 1995: 2f). Governance is a heterarchic mode of coordination, characterised by self-organisation as opposed to state (hierarchical) or market coordination (Jessop, 2000). The rise of governance has come as part of a search for solutions to failure of the privatisations of the 1980s in Western democracies. A political return to state management was politically unacceptable by the 1990s. Public private partnerships and other forms of governance were undertaken in order to deal with complex public policy issues (Jessop, 2000).

Climate governance refers to interdependent activities undertaken by networks of public and private agents operating on different but mutually constitutive scales. It is defined as ‘all purposeful mechanisms and measures aimed at steering social systems toward preventing, mitigating, or adapting to the risks poses by climate change’ (Jagers & Striiple, 2003: 388). The ascendance of private authority in global climate governance has coincided with the turn toward market mechanisms. Governance is premised upon the notion that neither state, nor market are the superior mode of organisation. However, a hybrid ‘marketised’ form of emissions management has been legitimated as a key part of the ‘policy mix’.

The marketisation of climate governance has been instituted across different political jurisdictions (municipal, sub-national, national and supranational); boundaries between public and private are blurring (Bernstein et al., 2010; Betsill & Hoffmann, 2011). The formation of public/private hybrid models of carbon market governance is well documented (Bäckstrand, 2008; Bäckstrand & Lövbrand, 2006; Green, 2008). The centrality of private actors and self-regulation in some parts of the carbon market raise questions of corporate accountability (Newell, 2008), and signal that both states and corporations are faced with legitimation issues (Paterson, 2010: 360). There are new combinations of interests behind marketised climate governance. In chapter 6, I illustrate that private industry and NGO partners have been a key part of the experiments in novel land carbon offset programs, playing various roles as partner investors, in developing carbon abatement methodologies, in community liaison and so on. I observe that these agents become cooperative partners with state agencies in the task of legitimating carbon pricing.

Importantly, the ascendance of global climate governance does not mean a neutral third thing beyond market and state has been created, or that capitalism’s contradictions are resolved. Capitalism has always been constituted through a mix of marketised and non-marketised organisational forms (Polanyi, 1957, 2001[1944]). Global climate governance introduces new sites where this contradiction is contested. In the case of

carbon pricing, experiments in internationally linked markets and carbon offset initiatives can create new spaces of conflict where actors mobilise over competing ideas of value. Views on how new types of carbon rights should interact with other types of rights (e.g. indigenous, land and resource access rights,) are commonly debated. These debates can refract, and in some cases exacerbate, pre-existing contention over extractive industries, land rights, or conservation. Both carbon taxation and carbon trading incite contests over the costs to industry and to the public, which incite confused ideological debates about industry policy and the welfare state.

The agents of marketised climate governance also constitute particular kinds of politics and subjectivities, which in turn become subject to contestation. In the Asia-Pacific carbon market entrepreneurs have been key agents in marketisation, and in some cases they have been subject to critical scrutiny (see R. Pearce, 2012). In Australia the experts advising the government over the design of carbon pricing have attracted critical attention in public debate. And the former Prime Minister Rudd's internationalism and preference for technocratic policy reform was contested by conservative public intellectuals (see chapter 7). With the Australian ETS, a number of independent bodies were introduced to regulate the market or advise on governance matters such as industry compensation, international linkage, and emissions targets. Many climate action advocates in government and civil society hoped that expert advice would de-politicise and strengthen the environmental outcomes of the market over time (see chapter 5), but the actual experience of climate policy debate and the repeal of carbon trading legislation in Australia confirms that politically neutral and incremental policy reform was too difficult to realise. With these socio-political dynamics in mind, this thesis considers marketised climate governance as a technocratic political project, that is contested.

Technocratic governance is common in climate and environmental political regulation more generally (Beck, 1992b; Lahsen, 2005). Technocracy refers to a form of governance where participants in management bodies are appointed on the basis of expertise rather than democratic election. In ideal terms it means that experts have decision making power, but in practice experts are more often one type of authority amongst others within intergovernmental bodies, a national government, in an independent advising body, or in the private sector. In chapter 3, I demonstrate that the Australian ETS is no exception. In this case, expert advice was key to establishing the political claim that carbon pricing could deliver a pain-free, pro-growth emissions reduction reform.

How do we think about failure in the Australia case? As we know, the carbon price in Australia was repealed, after a protracted period of political contestation. In order to explain this, I draw on the concept of governance failure. Failure of governance is distinct from market and state failure, in that failures are multidimensional, not singularly attributable to the state or market narrowly defined. 'Market failure' is a procedural concept mainstream economists use to describe a situation where economic exchanges do not produce what a 'perfect' market would theoretically deliver i.e. when scarce resources are not allocated efficiently through the pursuit of profit. 'State failure' is a substantive phenomenon. The concept is used in social science when the state does not realise its own political projects, for instance, in regard to its own operating rules and procedures, and in democracies when the state fails to renew popular mandates (Jessop, 2000: 13-14). Public servants and advisors waging state failure critiques of

public utilities in the 1980s were informed by public choice theory (see chapter 1). Jessop (1998, 2000) and Bakker (2003a) observe that whilst these two perspectives on market and state failure seem to advance starkly opposed views, they share the tendency to demarcate public and private authority sharply, in a zero-sum tension. Thinking in terms of simplified market and state categories encourages focus on ownership only, without attending to institutions, networks, subjectivities and power relations.

Because governance is premised upon reflexive experimentation, the criterion for judging success or failure is not immediately obvious (Jessop, 1998). We can identify both substantive and socio-political dimensions to governance failure. In this thesis I identify failures of governance in two forms: 1) when the substantive outcomes of a given governance arrangement do not meet the publicly state aims of agents involved, or 2) when there is no broad agreement over the goals and techniques of a given governance arrangement (Jessop, 1998: 38).

Identifying the sources of governance failure is not a merely technical question. Jessop (1998; 2002) argues that governance practices may be constrained or undone by three factors:

1. The contradictory dynamic of capitalism. The introduction of governance as a mode of organisation does not eliminate antagonisms, for instance between accumulation and legitimation;
2. The insertion of heterarchy into a state political system. Governance and government operate on different spatial and temporal scales. Governments reserve the right to re-articulate governance in terms of function, or for partisan purposes or global political advantage;
3. The unstructured complexity of the system being governed. Coordination problems can occur.

In her work on governance failure in water provision services, Bakker (2010b: 51) emphasises the constitutive role of power and organisational ideologies, not just institutions narrowly defined as rules and decision-making practices.

In the course of this thesis, I use the concept of governance failure to explore the substantive and socio-political dimensions of failure. I argue that there is evidence to suggest that the contradictory dynamics of fossil fuels capitalism has undermined carbon pricing in Australia. A recurrent theme in my analysis of the Australian case is that capitalism's energy question is the political economic backdrop of contestation over carbon pricing. Carbon pricing has not eliminated the antagonism between the state's role in providing conditions for energy-intensive accumulation and responding to calls for climate protection. Rather, carbon pricing has exacerbated existing issues. One example is the failure of public and private organisations to provide efficient and affordable electricity (see chapter 6). More generally, protection of fossil fuel energy producers and industrial users has been a core tenet of Australian climate policy since the 1990s (chapter 3). Further, the technocratic vision for a well-designed internationally linked carbon market has been undermined in the national political sphere (chapter 7).

The central roles of private actors and technocratic norms underpinning carbon pricing governance do not mean that the state is in retreat or receding in importance. States

operate in changing global political economic dynamics, which include participation in new modes of coordination. Internationally linked emissions trading constitutes the state as a market manager in partnership with the private sector and, often, in and through inter-connecting supranational governance bodies. The experience of protracted negotiations over inter-state burden sharing amongst participating governments in the EU ETS illustrates that while the scales and modes of governance are changing with marketisation, the state remains an important political economic entity (Bailey, 2007). In these contests, protection for territorially defined industrial interests was a central concern. Marketised climate governance proceeds at the same time as inter-state competition persists.

Bailey has explicated what that means for our understanding of the dynamics of carbon pricing governance. Traditional hierarchies remain important, but the dialectics are more complex ‘as new rules and roles are adopted to oversee emissions markets, and national governments attempt to reconcile their principled allegiance to climate cooperation with the protection of territorial interests against the often obscure scalar operations and allegiances of market actors’ (Bailey, 2007: 440). Further along these lines, Bailey and Maresh (2009) documented shifts in the territorial logics and dynamics of the EU ETS over time. Whilst the de-territorialising promise of carbon trading secured industry support, subsequent negotiations over re-regulating the market allowed the European Commission to extend regulatory power. This is a reminder that networked, heterarchic governance does not mean less regulation, but rather rescaled regulation.

In the Australian case, moves toward rescaled governance took a somewhat different shape. I demonstrate that the territorial logics of the briefly instituted ETS serviced a clear protective agenda for narrowly defined energy industry interests. This was evidenced through the overall design of the ETS, as well as the search for low cost international abatement. Chapters 4 to 6 illustrate shifts in this agenda over time. The timing, scale and nature of linkage to international carbon markets developed into a contentious issue. I demonstrate that a decision to fast-track market linking to the EU ETS became part of the former government’s political strategy to subdue the conservative campaign against the ETS as a ‘carbon tax’. In this case, introducing a new supra-national governance arrangement was pursued as a remedy for a domestic political legitimisation issue. A further insight from this case is that ‘local’ national political contests over the scale of emissions governance highlight limits to the technocratic vision for global carbon market governance (see chapters 7 and 8).

Identifying carbon pricing as a failure of governance allows us to consider the political contestation over carbon pricing as a challenge to technocracy. The Australian ETS failed as a legitimate and effective means to address climate change. The broader agenda of the political Right was to protect fossil fuel capital and de-legitimise Leftist climate change concern, and its technocratic tendencies (see chapters 7 and 8). This campaign was successful in that part of a national flagship package of climate change legislation was repealed, but new tensions have emerged. Climate policy has now been re-articulated by the Australian government as ‘Direct Action’. This approach was championed by conservatives with claims about sovereign risk of carbon abatement, and has potentially re-nationalised the scale of carbon mitigation doing away with plans to draw on international carbon credits. There are, however, signs that there is pressure from industry for the Direct Action Plan to allow for international abatement, which

may even see the plan be re-designed into a baseline-and-credit carbon offset scheme (see chapters 3 and 5).

Some version of this conflict is likely to have occurred over another type of policy, including traditional forms of regulation or a conventional carbon tax (Australia had an ETS with a 3-year fixed price period, creating an effective carbon tax). However, I contend that the contradictions and distributive dilemmas created by carbon pricing co-constitute these failures. The basis of this claim is further elaborated below.

The state, carbon rights and distributional dilemmas

Market mechanisms for emissions regulation are premised upon the idea that price signals can provide both a limit on emissions and flexibility for regulated firms. Both carbon taxes and carbon trading introduce new costs of production. In a cap-and-trade scheme, the state imposes a limit on greenhouse emissions, whilst providing a market (ETS) through which burdens can be efficiently and flexibly distributed. With a carbon tax, the state imposes the carbon cost, but sets the price of carbon more directly (regulatory decisions about an ETS also play a role in the range of carbon prices that occur over a given period). In both styles of carbon pricing, the state must take decisions about what legislative and regulatory actions are needed to institute a carbon price that can shift emissions-intensive production and consumption patterns.

This is important, because it reminds us that marketised climate governance, like traditional regulation, ostensibly aims to put a limit on access to emissions-intensive conditions of production. The health and viability of carbon markets and carbon taxes both depend upon the state's ongoing willingness to legislate and regulate toward the end of emissions reduction in domestic economies. Stagnation in international cooperation remains a barrier to carbon pricing expansion. Further, the distributive dilemmas associated with marketised climate governance are important for our understanding of both international and domestic political dimensions of carbon pricing. Contests over carbon pricing frequently focus on distributive dimensions of climate law and market regulation.

I argue that the contradictory dynamics of carbon pricing reveal that the hope that marketisation of state emissions management can provide a new source of surplus value will not be realised. In another fold in the tensions underlying carbon pricing, there is the question of carbon cost pass through. Regardless of whether national or international carbon limits are achieved, the distributive impact of carbon pricing (trading or taxation) involves extraction and redirection of surplus value within the economy. Recent history shows fossil fuel capital has benefited most from these transfers, though other fractions of capital and households are also potential beneficiaries. The politics of household and industry compensation signal dilemmas that may be resolved in the short term, but re-emerge in the long term.

A key issue that is central to understanding the distributive impacts of carbon pricing relates to the creation of carbon rents and the accompanying rent seeking behaviour. Felli (2014) and Jones (2009) argue that carbon pricing is a form of 'carbon rent'. Rent is surplus value appropriated, and redistributed, by the state. Marx's defined rent as:

Rent is the price paid to the owner of natural forces or mere products of nature for the right of using those forces or appropriating (by labour) those products. (emphasis in original, Marx, 1969[1863]: 247)

Rent is a corollary to Polanyi's notion of commodity fictions; it involves the extraction of surplus value, but it does not involve new value creation. Only labour can produce new value. States and/or capitals may seek to prevent access to geographical concentrations of a resource by asserting rights over a territorial space in order to charge others a monopoly rent. Land and mineral rights are common examples (Emel & Huber, 2008; Emel et al., 2011). But there is a good reason to consider carbon rights as another case where the state acts as a kind of sovereign national landlord.

Felli argues that production of carbon credits is predicated on the state's monopolisation of emissions rights through the UNFCCC (Felli, 2014: 273). He observes that international climate law territorialises the sources of GHG emissions and 'sinks' within national boundaries (see also Lövbrand & Stripple, 2006). It codifies both a legal right to emit (the basis for emissions trading), and a formal limit on GHGs. The Protocol creates *public* entitlements to emit greenhouse gas emission, and thereby a form of public property (Assigned Amount Units (AAU) held by Annex B signatories to the Kyoto Protocol).

AAUs can be read as a form of absolute rent, and tradeable units such as CERs and EURs are a form of differential rent (Felli, 2014). Felli notes that the Protocol itself does not transfer rights or obligations to any entity other than state Parties to the Protocol and UNFCCC. Wemaere, Streck and Chagas established this point in their analysis of legal ownership of AAUs and EU allowances. They point out that 'in order to allow private entities to hold, trade or own units defined under the Kyoto Protocol, they need to be authorized to do so by the state' (Wemaere et al., 2009: 45). Michael Grubb perceived this also.

Kyoto is an intergovernmental agreement and the only entities that can be bound by it directly are governments. Value under Kyoto can only be accorded to private sector trades to the extent that these are endorsed, in one way or another, by governments. (Grubb, 2003: 166)

In the first instance, the Kyoto Protocol and UNFCCC has created a nationalisation of emissions rights which become necessary and potentially scarce conditions of production (2014: 261). What states do to operationalise their international responsibility varies. Certainly the creation of carbon markets has been the most common form of national climate policy. The precise property status of emissions rights depends on 'local' national legal and regulatory context (Wilder, 2013). In some cases like Australia's ETS the carbon rights produced are defined as property rights, but in most others they are constituted as licences as in the EU ETS. The value of these rights, is contingent on institutions of market governance (Wilder, 2013).

There is a neo-colonial dimension to the nationalisation of emissions rights. The Kyoto Protocol divided the global carbon budget into unequal sovereign rights to emit. Carbon rights are secured by state parties to the UNFCCC, as they seek relative advantage in a prospective future of constrained global emissions. AAUs are unequally distributed on the basis of grandfathered emissions rates. Developed nations have compliance

responsibilities to reduce emissions under the Kyoto Protocol, and they enjoy codified rights to the use of the global carbon cycle. For instance, Australia infamously secured a net increase of emissions on 1990 levels as its 2012 target. Overall, former colonial powers have claimed a large share of entitlements, a precedent for any post-Kyoto agreement which if brokered would likely involve a similar logic (Felli, 2014: 262-263).

Another key feature in the North-South relations in global climate governance are offset mechanisms provide for low cost ‘carbon sinks’ in the South. Offset programs have been welcomed by some developing nations, and there are benefits for Annex B Parties to the Kyoto Protocol. In chapter 3 I demonstrate that pursuit of international abatement has been a longstanding displacement strategy for the Australian state. However, the new conservative government has opposed the transfer of wealth through offset project finance from North to South (chapter 7), again indicating that diplomatic compromises established through marketised climate governance only go so far in ‘solving’ political problems.

When we look at the domestic politics of carbon pricing, the distributive issues that are debated pertain to industry and consumer costs. Using the rent analogy, Jones has described the role of the state in managing these issues.

Effectively, the state grants itself monopoly rights over use of the carbon dump, by requiring polluters to hold permits. Where it auctions these permits the state captures the carbon rent, and where it gives them away it effectively hands this rent over for nothing—in both cases at the expense of those who have to pay higher prices. (Jones, 2009: 19-20)

So the distributive impact of carbon pricing is regressive in the absence of compensatory social policies and revenue recycling (Büchs et al., 2011). Carbon pricing produces ‘distributional dilemmas’ for states who by and large pursue social policy and environmental policy in separate and conflicting directions (Gough, 2013a, b).

This has major significance for our understanding of domestic contestation over carbon pricing. Carbon pricing extracts surplus value from the economy via higher prices, including real wages. Without adequate compensation and controls on cost pass through, climate policy effectively makes the consumer pay, not the polluter. This risk was a key topic of political contestation in Australia, which posed major legitimacy issues for the state and civil society organisations seeking to defend the carbon pricing scheme (see chapters 7 and 8). Within the domestic political realm, state decisions about revenue use and compensation are key factors in the overall distributive impact of a carbon price (see Gough, 2013a), which are determined through political struggle (Vlachou, 2004).

A common pattern in political decision making has been for governments to institute carbon pricing regulations and transitional support in ways that benefit energy-intensive industries. Considerable transfers of public wealth have occurred in Europe, NZ, and in Australia where compensation has been too generous. Household compensation is also common, though no guarantee that it will secure public support. Chapter 8 details the unruly debate and competing political claims made by conservatives and their opponents over the distributive effects of the ETS.

Contestation over carbon pricing and competing imaginaries

‘Local’ conflicts over carbon pricing are waged between competing fractions of capital, environmental, labour, and conservative movement organisations, expert elites, and affected communities. The state is an arena of struggle where actors contest whether and how to price carbon as well as the broader meanings of the decision, often in terms of national economic organisation. These contestations occur in parliament, the media, public protests, on the pages of policy documents, and in less visible spaces of lobbying. Contests take particular material and symbolic forms depending on the social forces involved. And most importantly, they are not discretely ‘national’. International relations are part of the debates, and other nations can become agents in domestic politics in various ways. And as mentioned above, supra-national regulations are a key feature of carbon trading.

Given the diversity of contestation over carbon pricing, a revision of existing conceptualisations of conflict is needed. Critical social theorists have also argued that carbon pricing is a means to turn climate change into a depoliticised administrative issue (Felli, 2014), and as a sign of a broader ‘post-political’ condition (Swyngedouw, 2010). Still others try to fit carbon pricing into a neo-Polanyian narrative where counter movements mobilise against the ‘commodity fictions’ instituted via carbon trading (Bond, 2012a; Lohmann, 2010).

As discussed in chapter 1, the polyvalent struggles over carbon pricing should not be theoretically reduced with the Polanyian metaphor of distinct forces for ‘carbon commodification’ and forces seeking protection from it. Nor should carbon pricing be understood as a sign of stable ‘post-political’ hegemony. Neither of these accounts explicate how technocratic managerialism, or the contradictions of carbon pricing, direct society away from more direct democratic debate and action toward transforming the political economy of energy in market society.

As a remedy for the tendency to assert, rather than discover, the nature of contestation over carbon pricing, in-depth sociological detail is needed to interpret the variants of political mobilisations, whether they resist particular instances of carbon pricing, why and how. In order to investigate these contests I have used a range of qualitative research methods (see the introduction). These methods have been used to provide insights into the development and direction of conflict over time. I look at policy, public debate, as well the personal views on carbon pricing politics reported by experts and civil society actors in semi-structured interviews.

To organise the analysis I use concepts from ‘cultural political economy’ - an approach that draws on the resources of classical political economic writings like Polanyi’s work in order to capture the social and cultural embedding of economic relations. Sayer (2001) reminds us of Marx and Polanyi’s concern about the material and cultural impacts of wage labour. Cultural political economy formalises this interest into a distinct theoretical lens, and draws on methods of semiotic analysis which allows for a deeper level of investigation into contestation.

Semiosis (the production of intersubjective meaning) contributes to the overall constitution and evolution of wider social relations (Jessop, 2004). Economic objects are socially produced, historically specific, and more or less embedded in social life

(ibid.). By investigating the role of semiotic practices we can discover both the constant remaking of social relations as well as their contingent nature and change over time. Studying semiosis also gives us insights into the dynamics of legitimation and de-legitimation. Any new form of economic governance depends upon both institutional change and a new social formation through successful political, intellectual, and moral leadership (Jessop, 2010). Failure to realise a new form of economic governance then, is in part a failure to realise a normative and cultural agenda.

The would-be commodity 'carbon' is an instructive example of the role of meanings in the constitution of economic objects. Its status as a commodity has proven highly unstable. Failures of governance are a key explanatory factor. As described above, the logics of marketised climate governance reflect and often serve territorially defined interests, which in turn threaten the viability of markets for CO₂. Industry capture has successfully weakened carbon markets where they exist, and in other instances industry opposition has achieved a series of non-decisions (e.g., in the US until recently, Japan and Canada). However, the instrumental power of business is only one side of the story. To understand the socio-political dynamics in full, we need to attend to both material and symbolic sources of instability. Unruly political argumentation over climate policy in Australia has contributed to the destabilisation of carbon pricing in important ways.

Jessop's (2010) concept of 'economic imaginaries' is used in chapters 7 and 8 in order to interpret the process of meaning making in contests over climate policy. The concept of imaginary has its origins in work by Benedict Anderson (1983) who emphasised the role of commercial printing in the production of 'imagined national communities', a defining element of the formation of nation-states in the 18th century. It was then developed by Charles Taylor (2002) who argued that there are a range of social imaginaries that occur simultaneously in modern societies. Imaginaries have shifted over time, for instance, the transition to capitalism is associated with the modernist imaginary of individualism, economic rationality and the separation of public and private spheres.

Economic imaginaries frame the lived experience of individuals, and inform collective interpretation about that world. Economic imaginaries give meaning to an economic field (Jessop, 2004). They are socially embedded; they are mutually constitutive of capitalist social organisation, its contradictions, crisis tendencies and dilemmas. Contestation over carbon pricing is shaped by the material and symbolic power of agents engaged in political struggle. These agents articulate and reproduce competing economic imaginaries. A given economic imaginary is expressed in dialectical relation to economic structures. Levy and Spicer (2013: 672-675) argue that an economic imaginary can only realise hegemonic status if a 'value regime' becomes embedded in everyday life. In other words, it is not enough to negotiate support from dominant actors; an economic imaginary must infuse into popular culture and speak to people's lived experience and concerns. An economic imaginary must at least partially correspond to actually existing interdependencies and economies. In the case of carbon pricing politics, the hegemony of fossil fuel capital as well as the contradictory value relations of marketised climate governance must be taken into account in our explanation of the broader failure to legitimate a 'techno-market' vision for climate governance.

The global vision for marketised climate governance was put to test in the Australian political debate over carbon pricing. I will argue that the underlying contradictions of carbon pricing were recurrent features of political contestation and part of the reason why a market for CO₂ was not legitimated by pricing advocates in government and civil society. A stable value regime capable of creating a pathway toward decarbonisation was always going to be difficult. The project of pricing carbon was established as a means to pave the way for global agreement and provide a ‘flexible’ governance regime for energy intensive companies resistant to regulation (see chapters 1 and 3). However, a broad political settlement has not been realised. A semiotic reading of the contestation over carbon pricing in Australia illustrates that an effective and popular carbon price has proven elusive.

My analysis of Australia’s carbon pricing debate draws upon a previous application of Jessop’s cultural political economy. Levy and Spicer (2013) propose that there are four core climate imaginaries visible in climate politics: ‘techno-market’, ‘fossil fuels forever’, ‘climate apocalypse’, and ‘sustainable lifestyles’. These are fairly descriptive categories the authors apply to contestation mostly in the US but intended to capture more global trends. The applicability of this model is more accurate for developed countries (accounting for carbon pricing politics societies of the South would require further adaptation and deeper analysis of the political economy of development). The model is used by Levy and Spicer to illustrate the shifting norms, interests and actors competing for political dominance. Chapters 7 and 8 offer an adapted version of this typology and looks at the competing economic imaginaries visible in the contest over carbon pricing in Australia.

Table 2.1 Levy and Spicer’s model of shifting climate imaginaries

<i>Period Dates</i>	Carbon wars	Carbon compromise	Climate impasse
	1990s	1998–2008	2009-present
<i>Catalyst</i>	Rising concerns about climate change	Sense that climate policy is inevitable; clean energy and carbon market opportunities	Global financial crisis
<i>Dominant imaginary</i>	Fossil fuels forever	Techno-market (Climate populism)	Fossil fuels forever resurgent, but no dominant imaginary
<i>Associated value regime</i>	Dominance of large energy-intensive firms historically integral to market society; Consumer capitalism and growth for development; Global carbon market still more idea than reality	Carbon markets take off; Rapid rise of renewable energy technologies; Firms display carbon awareness; Majority of citizens aware of climate risks and support for climate action gains popular traction	COP15 impasse; EU carbon market failing and other ETS plans shelved; Ongoing barriers to renewable energy; Coal and gas sectors vying for market share; Climate concerns lower priority for publics

Source: Adapted from Levy and Spicer (2013: 667)

The concluding section of this thesis focuses on the unravelling of the ‘techno-market’ imaginary which was key to a period of consensus building between the late-1990s and 2009 (see table 2.1, Levy & Spicer, 2013). The techno-market imaginary can be read as a distinctive semiotic arrangement that rearticulates the genres of climate governance practice, market liberal discourses, techno-managerial and diplomatic styles (see chapter 7). It expresses what Lovins and Cohen (2011) and Newell and Paterson (2010) have separately called ‘climate capitalism’. Climate capitalism broadly refers to processes of building carbon markets, marketised models of ‘clean development’, and entrepreneurial markets for green techno-innovation. As a political project, climate capitalism is ‘a model which squares capitalism’s need for continual economic growth with substantial shifts away from carbon-based industrial development’ (Newell & Paterson, 2010: 1).¹⁰ Attempts to legitimise marketised climate governance have necessarily involved the mobilisation of resources within and beyond the UN and other international fora. Looking at the ‘local’ Australian debate over carbon pricing reveals considerable challenges to the global vision for climate capitalism.

The attempt to produce a hegemonic economic vision for climate capitalism with cultural purchase has made considerable gains, however it is far from dominant and increasingly destabilised by other imaginaries. I will argue that the failure of carbon pricing in Australia is associated with the (re-)articulation of the ‘fossil fuels forever’ imaginary by conservatives who have leveraged the contradictions of carbon pricing to contest the political purchase of the techno-market vision. Further, environmentalists have been moved to wage a different kind of political battle over energy market transformations. There are signs that an alternative ‘energy justice’ imaginary is in the making and may further undermine the techno-market vision if it develops more popular traction and compels a more productive regulatory response from the state (see chapter 8).

Conclusion

This chapter outlined a framework for analysing carbon pricing that foregrounds the contradictions of capitalism, political contestation, failures of governance and the role of the state in managing recurrent legitimisation issues associated with carbon pricing. It has covered a lot of ground. These concepts and themes are developed further in subsequent chapters.

The discussion has sought to establish some general claims about the nature of capitalism and conflict over environmental issues. Political economic analysis conceptualises climate change as an expression of underlying contradictions that define capitalism and conflicts in market society. Capitalism is constituted *through* nature, which both effects, and is affected by biophysical properties of the phenomena enrolled

¹⁰ Ecological modernisation is a similar idea to Newell and Paterson’s use of the term climate capitalism in that both concepts are used to describe political responses to climate change which work within a capitalist framework (Spaargaren & Mol, 2013: 177-178). Political scientists have observed that technocratic ‘ecological modernist’ visions for emissions management have contributed to the turn to carbon markets (Bäckstrand & Lövbrand, 2006; Bailey et al., 2011).

in accumulation. As the sense of urgency over climate change grows, and diverse agents mobilise over whether and how to ‘re-embed’ economic relations within safe climate limits, the mediating role of the state is brought into play. Further, environmental regulations are themselves constitutive elements of capitalist social organisation that can produce contradictions.

This chapter has also offered a theoretical perspective on the particular contradictions of carbon pricing. I have illustrated that all forms of climate policy and law (taxation and emissions trading) extract value from the economy, and redistribute it. *How* value is redistributed depends on the type of policy chosen by the state (e.g. whether it’s an ETS or carbon tax, or direct regulation) and on a host of other features of policy (e.g. the compensation packages for corporations and households).

I have sought to establish that the tensions and distributive issues of marketised climate governance create particular kinds of political conflicts and dilemmas. Carbon pricing schemes are fictitious; they are a form of carbon rent secured by the state through international climate law. Carbon pricing results from a state’s political interpretation of its national responsibilities and options under the UNFCCC. In domestic economies both carbon taxation and emissions trading extract surplus value from the economy in the form of higher consumer prices. The potentially regressive impact of pricing creates legitimacy issues for Western governments. Internationally, it is only carbon trading that offers a means to defer emissions reduction spatially and temporally.

In one sense, contests over the distributive impacts of carbon pricing are similar to those waged over other types of regulation. However, there are also processes of rescaling underway through carbon trading. For instance, carbon offsets and supra-national climate regulation create new sites of conflict (see chapter 6) and North-South wealth transfers have been contested in the Australian debate over the ETS (chapter 8).

The political economic backdrop to the contest over carbon pricing is the question of energy transition. Fossil fuels have played a unique role in the historical development of market society and its climate crisis. A key observation that comes out of the literature is that climate change raises questions about whether and how energy markets might be re-embedded within ‘safe’ atmospheric limits. In the debate over carbon pricing, society’s energy question is never far away; neither are the agents mobilising for or against fossil fuel capital. However, critics argue that the fictitious nature of ‘carbon commodities’ and the marketisation of climate governance more generally serve to obscure democratic political debate and prospects for energy market reform.

I agree with this claim, but insist that the critique must be investigated and supported empirically. The methods used in this study combine analysis of carbon pricing law and policy documents with qualitative analysis of media, parliamentary debates, and depth-interviews with members of civil society. The idea of competing climate imaginaries is used as a means to interpret the normative dimensions of contestation.

The following chapter will argue we can say that so far carbon pricing has emerged as a technocratic governance project that has not realised a political solution to inter-state competition. Nor has it led to substantive shifts in energy markets; energy markets are changing dramatically, but this is not because of climate policy (see chapters 6 and 8). More broadly, carbon pricing has been contested as a technocratic ‘solution’ (chapters 7

and 8). Resistance has been led by the political Right, attempting to assert a different set of moral claims about fossil fuels and a 'free market' critique of carbon pricing.

Chapters 4, 7 and 8 demonstrate that the abstract nature of 'carbon' as a focus of regulation is associated with a number of other broader political problems: the institutional failures that flow from trying to institute carbon rights without addressing pre-existing governance failures; the disconnection between the public and a technocratic elite tasked with managing carbon; the opportunist use of the fictitious nature of carbon commodities by conservative opponents; and the troubles for environmentalists in making the case for a complex policy. The turn to renewables, coal and gas campaigning I explore in chapter 8 is read as an effort to move beyond the cynical and abstract debate about carbon pricing in Australia. This shift in environmentalism confirms popular support for carbon pricing will likely continue to be difficult to achieve.

III *The state and governance failure*

3 Historical dimensions of Australian climate policy

Marketisation as a crisis displacement strategy

Introduction

We have established that the contradictions of capital accumulation have been decisive in the arrival of climate change as a major crisis of the 21st century. As societies grapple with the question of whether and how to respond, the state is an arena of struggle. In the midst of contention states have developed marketised emissions management techniques. Marketised climate policy has developed in and through state strategies to displace the climate crisis.

This story of climate policy failure is particular to the Australian experience, a post-colonial settler nation blessed, or cursed depending on your perspective, with large mineral deposits and until recently a booming energy industry. However, the Australian climate policy story intersects with the global stoush over the distribution of climate mitigation responsibilities. The tension between securing national economic protection and being recognised as a constructive participant in climate negotiations is keenly felt in Australia - one of the most emissions-intensive nations in the OECD. Bursts of transnational and subnational pressures have pushed successive Australian governments to respond politically to the climate problem. This chapter sketches the history of intermittent climate change policy reform, and key patterns in state decision-making.

A common element in Australian climate policy is the tendency toward economic protectionism for energy interests. This chapter also historicises the climate question, introducing the state-resource nexus since Australian colonial settlement. It briefly outlines the history of the state's support for energy industries and introduces key actors seeking sway over Federal government climate policy. It argues that environmental regulation may be conceived in terms of the logic of crisis displacement.

This chapter provides evidence of successive Australian governments deploying responsibility displacement strategies. It is a story of both continuity and political change, recurring and morphing legitimisation issues. Federal climate policy in Australia has developed in a number of different institutional forms and decisions since the 1980s. In this time, a suite of marketised climate policy choices have been etched into the logic of policy reform: voluntary efficiency schemes, tradeable energy certificates, carbon taxation and carbon trading. I trace this lineage, and highlight the co-constitutive relationship between national protectionism and the state's preferences for marketised policy options since the 1990s.

The second half of the chapter hones in on the previous ETS under Labor and current alternative scheme from the Coalition government. This discussion serves the purpose of introducing and critiquing the policy and law that is discussed in subsequent chapters. My analysis of legislation and policy documents demonstrates that the two contending Federal government climate policies both express displacement strategies within their institutional design. I show that the ETS instituted by the Gillard government would likely have led to minimal emissions reduction and it provided a new subsidy for fossil fuel industry. The Coalition government's alternative Direction Action Plan repeats many of the previous scheme's inadequacies, though there are differences with regard to wealth transfers and the scale of governance.

State power, climate crisis and displacement strategies

The previous chapter introduced the state as a complex social relation and arena of contestation. State power is a form-determined condensation of the balance of forces in political struggle. Investigating the state requires analysis of a) the patterns of strategic selectivity of a given state institutional ensemble and b) the constitution and strategies of social forces (Jessop, 1999). This chapter also reflects on the state as an 'environment making', or 'resource making' institution. The historical patterns in state support for energy industries in Australia are outlined, as well as the strategies of fossil fuel capital and Australian environmentalists.

The capitalist state is an 'environment making' institution engaged in managing, mediating, and producing the environment in order to provide and maintain the conditions of production and accumulation (Parenti, 2015: 2). Early political economic thinking about the environment in state theory can be found in Marx's writing on 'primitive accumulation'. Toward the end of *Capital Volume I*, Marx (1976[1867]) reflected on how the conditions and initial capital necessary for capitalist production to occur were first generated. He insisted that the issue was not about quantifying amounts of land or money acquired. Rather, it was about establishing the origins of capital as a social relation, where capitalists come to control the means of production and propertyless groups were compelled to work for wages (proletarianisation).

Force and violence was often involved in the process of usurping common property for transfer to landed elites, who created large commercial farms. The state was an active part of these processes, and was in turn transformed through them. Parliamentary Acts enclosed the British commons in the 18th century.

Landed property presupposes that certain persons enjoy the monopoly of disposing of particular portions of the globe as exclusive spheres of their private will to the exclusion of all others. (Marx, 1981: 752)

These dispossessions ‘set free’ a new workforce for manufacturing, and for Marx, two historically opposed classes were created. Amidst this process political elites were deeply connected with the new capitalist farming class, capitalist social organisation and the capitalist state emerged in Western Europe.

Both Marx and Polanyi forcefully observed that the state was essential for economic transformations. They criticised liberal economic assumptions of self-regulating market exchanges of property rights by illuminating the state’s role in appropriating land for the purpose of market transition. Reflecting on the coincidence of repealed legislations with new administrative functions of the state in the 1930s and 1940s, Polanyi argued that ‘there was nothing natural’ about the transformations that created market society:

.. laissez-faire itself was enforced by the state ... The road to the free market was opened and kept open by an enormous increase in continuous, centrally organized and controlled interventionism (Polanyi, 2001[1944]: 145-146)

Major social and ecological change followed the commodification of land. He documented the history of rural land appropriation for commercial agricultural production, extraction of raw materials, expanding urban populations, and transport routes in Europe and colonies (Polanyi, 1944/2001: Ch 15).

O’Connor has repurposed Polanyi and Marx’s work for contemporary understanding of the state’s ongoing role in capitalism. He observes that the state acts to make land, water, minerals, airspace and so on available as use-values. O’Connor argued that the state ‘produces these conditions and/or regulates access to, use of, and exit from laborpower, land, raw material, and other markets for fictitious commodities..’ (O’Connor, 1998: 148). The state’s role in resource management is a common topic in political economy. For instance, research by geographers illustrate that states institute property regimes in order to enable capitalisation of subterranean mineral wealth (Bridge, 2013; Bridge & Jonas, 2002; Huber & Emel, 2009). States acting as a sovereign national-landlord state can mitigate ‘political risk’ for capital investors in the mining business (Emel & Huber, 2008). Importantly the state’s resource use strategies are not uniform, and they change over time. The turn to market-based resource and environmental service provision is a case in point (Bakker, 2003b, 2005).

This raises the question of how environmental regulations arise and what relationships they have to the state’s other regulatory and political commitments (see chapter 6). Below I document patterns in the Australian state’s response to pressures for climate action. In order to reflect on this pattern, I draw on Colin Hay’s conceptualisation of state strategic responses to environmental issues.

Hay (1994) argues that environmental regulation can be understood as a feature of state crisis displacement strategies. Looking at global environmental politics, Colin Hay outlined a range of displacement strategies available to the state in order to preserve legitimacy in the face of international and domestic pressures for environmental protection. These strategies include: engage in political risk analysis in terms of cost to

the state; shift responsibility upward to global or regional political agendas; shift responsibility down to civil society; shift responsibility across to other nations or non-domestic capital as the culprit; do the minimum necessary to re-secure legitimacy; overstate the state's 'green conversion' (Hay, 1994: 96-97, 1996).

Hay is effectively describing *responsibility* displacement strategies aimed at deflecting or deferring environmental crises. He emphasised general constraints on the state in dealing with global environmental problems, the most significant being the imperative for the state to institute law and regulation in harmony with global economic growth. He argued that state strategies for crisis displacement are a means to deflect the global ecology-capital contradiction. They should also be understood with regard to the type of environmental problem (a symptom of the fundamental contradiction) and the specific concerns brought into public contestation within civil society (Hay, 1994: 94). For instance, climate change poses serious risks to society and high economic costs, compared to a single site of pollution or species extinction. This makes the likelihood of international cooperation more distant than compared to regulations for ozone depletion for instance which are considered high risk and low cost.

It is also important to consider state strategy in regard to the trans-boundary nature of environmental issues. The state must weather global sources of pressure and contention as well as domestic ones. The divergent interests of individual states and, indeed, non-state players (NGOs and transnational corporations, for instance) make for ongoing contestation at the global level. Further, this struggle will inevitably be played out on a strategic terrain that favours certain interests over others—most likely those of capital and globally dominant political alliances. Such cumulatively hegemonic interests may well subvert the desire to forge a concerted response to environmental degradation, resulting either in inaction or, more likely, ineffective action (Hay, 1996: 428).

Hay (1996) argues that most often environmental crises are not experienced as a crisis at the global level at which the environmental contradiction is generated. Rather, issues like climate change are 'managed' at the level of the nation-state.¹¹ Symptom management rather than decisive intervention has become a norm. The pessimistic conclusion is that the political structures of the advanced capitalist states are a hindrance to environmental stability (p. 431). I conclude in a similar vein, but also emphasise that this need not be case, and we should keep ongoing signs of instability in view.

Hay's framework draws on the work of Habermas and identifies the subjective, rather than singularly structural economic dimensions of environmental crisis. The state is engaged in constant risk calculus and responds to perceived crises, not 'actual crisis' or scientific estimates. As the state moves to displace crises from the economy to the political and administrative sphere, crises of rationality for the political administrative system ensue (Habermas, 1976: 46). Historical examples include the de-legitimation of Keynesian welfare state economics and the challenge of 'new social movements' including environmentalism in the West (Offe, 1985). The Habermasian distinction

¹¹ Bailey's (2007) work on the rescaling of governance through carbon trading adds an important addition to Hay's point, that state territorial power continues to shape the politics and distributive dimensions of carbon pricing.

between ‘system’ and ‘identity’ crises is unhelpful. It implies two ontologically separate economic and political realms.

I cannot resolve ontological questions in the space available. The evidence presented in this thesis suggests that the nature and extent to which climate change manifests as a crisis is shaped by dynamics that are irreducibly material and intersubjective. The following introduction to Australia’s climate-energy problem and the state’s policy responses over time serve as an introduction to the dynamics of legitimization and de-legitimation at play.

Australia in a warming world

On the face of it, measures of Australia’s national contribution to climate change seem small at 1.5 per cent of global greenhouse gas emissions in 2005 (Garnaut, 2008a). However, energy exports from Australia now outstrip ‘national’ emissions. Coal and gas exports have grown steadily. Annual emissions associated with energy exports are 800Gt CO₂-e and now outstrip the annual domestic emissions average of 550Gt CO₂-e (BZE, 2014: 13).

The national emissions profile of Australia illustrates important dimensions to the national climate question. Examining annual greenhouse gas emissions, Australia has the highest per capita emissions rate in the OECD at 23.2tCO₂-e per person in 2013-14 (excluding LULUCF) (DOE, 2014a: 18). Energy from coal and other fossil fuels contributes 67% of the nation’s greenhouse gas emissions, and fugitive emissions from mines contributes a further 7% (ABS, 2013). This is largely due to the dominance of coal fired power in the stationary energy sector. Coal’s contribution to electricity in Australia is higher than the majority of nations worldwide (see World Bank, 2012).

Agriculture is also a significant contributor to national emissions, at approximately 15 per cent of national emissions in 2013 (DOE, 2014a: 15). LULUCF is also an historically significant part of Australia’s emissions. Vegetation clearing contributed approximately 28 Mt CO₂-e in 1980 and in 1990, LULUCF contributed 22 per cent of Australia’s emissions (AGO, 2005). Since then, land clearing reductions and plantations combined with the vagaries of carbon accounting rules, make LULUCF a source of abatement in Australia. Land carbon ‘sinks’ have figured prominently in the Australian state’s policy response. It is important also to recognise carbon-intensive sectors are concentrated within the national economy.

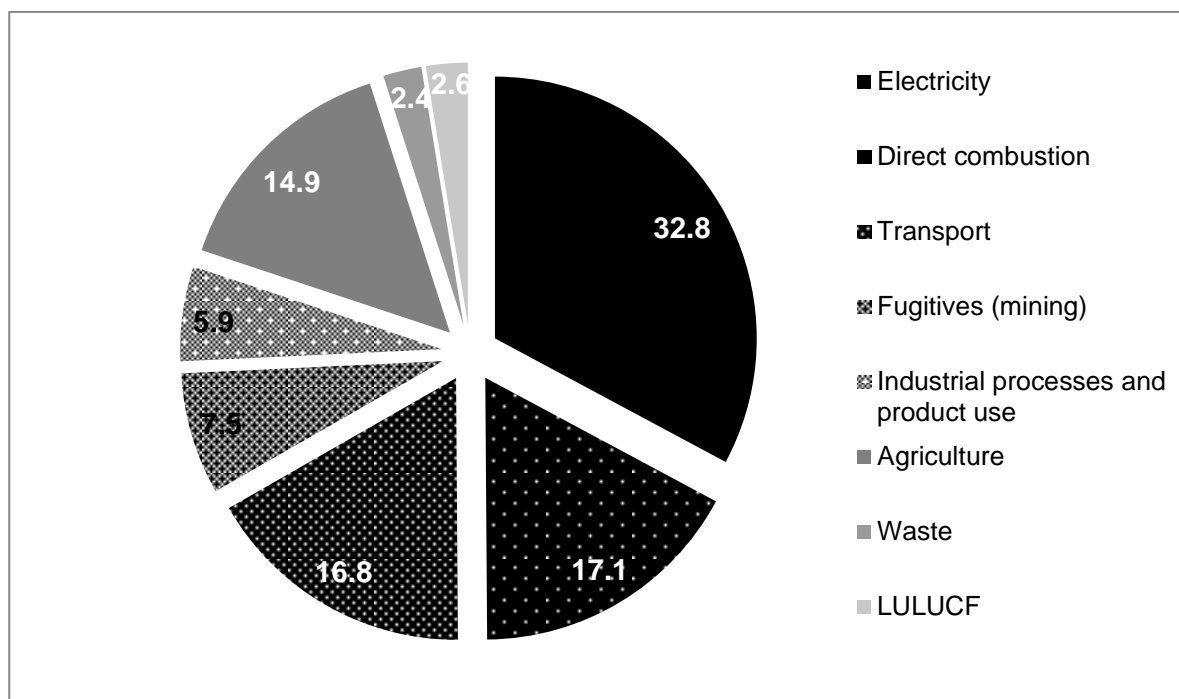


Figure 3.1 Percentage of national emissions by sector 2013-2014

Source: (Data sheet figure 3, DOE, 2015a)

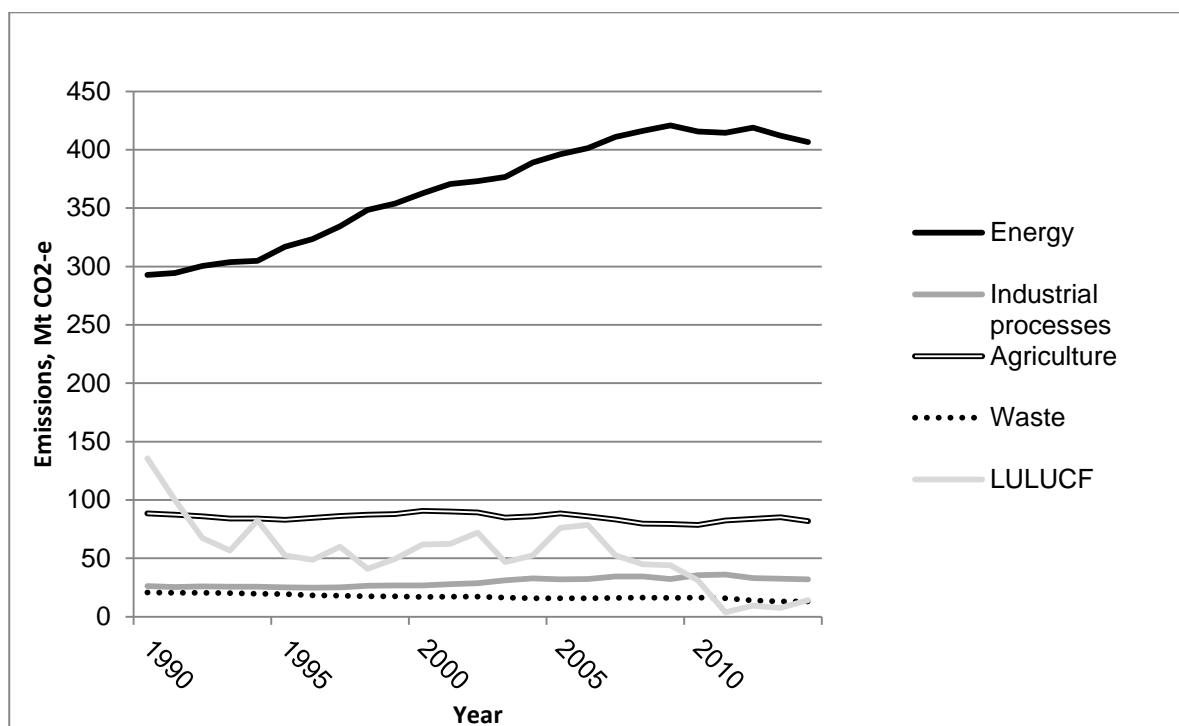


Figure 3.2 Annual domestic emissions by source, 1990-2014

Source: (Data sheet figure 9, DOE, 2015a)

Industries contributing 87 per cent of total direct emissions, constitute only 29 per cent of GDP and 21 per cent of employment (Pezzey et al., 2010: 188). However, the economic importance of fossil fuel production and exports in particular is commonly exaggerated by industry and state actors. Guy Pearce¹² calls this ‘quarry vision’, an ‘uncritical acceptance that mining and energy are the engine room of Australian prosperity’ (G. Pearce, 2009: 14). He is effectively describing an economic imaginary that is constituted and reproduced discursively and materially by both fossil fuel capital interests, and through the actions of different parts of the Australian state and parts of civil society. This chapter introduces the primacy of protection for energy-intensive capital in climate policy, a product of successive Departments of Environment, and under recent Labor governments, a specialised Department of Climate Change. Chapter 6 discusses the governance of emissions-intensive industries. More broadly, energy-intensive production has been constituted through Australia’s developmentalist trajectory.

The state, developmentalism and industry

Emissions-intensive accumulation is part of Australia’s historical development. Ken Walker (1999) interpreted Australia’s approach to environmental policy in terms of the nation’s history of ‘statist developmentalism’, which he defines as both a state of mind and a development strategy that involves the assumption that development is imperative, popular and has self-evident advantages (Walker, 1999: 40). The developmentalist vision for Australia was European and emerged through institution building projects during the ‘long boom’ of the 18th century. By the 19th century, developmentalism had been fortified as a shared ideology between conservatives and Australia’s labour movement.

European imperialism took the form of violent displacement of indigenous populations and a process of ‘opening up’ land for more dense forms of production such as mining, agriculture, forestry. Trade in new commodities like wool, minerals and exotic timbers underwrote settler population growth. The colonial focus on development was largely insensitive to the unique and fragile ecologies of the Australian continent. The centralisation of state power contributed to the transformation of the biophysical environment, for instance, the provision of drought assistance, state subsidised infrastructure and market bodies for grain and mining operations. The Federation of Australia in 1901 extended statist developmentalism, for instance through the Joint Coal Board and Murray Water Commission.

Importantly, statism has evolved with laissez-faire elements of the Australian state. Stephen Bell (1995) observes that Keynesianism was never fully developed in the mid-20th century and liberalism has been associated with attempts by the Liberal Party to limit state intervention into a range of microeconomic policy arenas.

The Australian state has historically practiced a kind of macro-level structuring together with micro-level laissez-faire, a kind of statist/laissez-faire amalgam which reflects simultaneous elements of state strength and weakness. (Bell, 1995: 32)

¹² No relation.

So statism co-exists with liberalism because they manifest in different sectors and different levels of operation (Walker, 1999: 34). These dimensions of state power change over time. The 1980s and 1990s was a period of ‘state-assisted marketisation’ wherein a partial withdrawal from the economy occurred, particularly in finance and banking (Bell & Head, 1994). The dramatic economic transformations of this period however did not challenge developmentalism which has continued throughout the neoliberal turn (Thurbon, 2012). I outline the electricity, mining and land sectors as an illustration of these dynamics in chapter 6.

Emissions-intensive industries are well organised politically, and enjoy high level access to government. The relationship between Australian governments and energy capital has become increasingly politicised in the last 10 years. Industry power to influence Federal climate policy and tax reform have become public knowledge. Australia’s fossil fuel dependency and the influence of a highly organised industry lobby is well-cited as a reason for the nation’s recalcitrance on climate policy (Christoff, 2005; Crowley, 2010; Hamilton, 2001; G. Pearce, 2007). Energy producers and large industrial users have organised effectively through the Australian Industry Greenhouse Network (AIGN), Australian Coal Association (ACA), Minerals Council of Australia (MCA) amongst other groupings.

Industry interests in the land sector are represented in parliament by the National Party (in coalition with the Liberal Party) and since the 1970s professionalised bodies have introduced non-parliamentary sources of influence (Halpin, 2004). The National Farmers Federation (NFF) is the lead farmers lobby and the National Association of Forest Industries (NAFI) among others represent the interests of the forestry sector. Rights to clear land on private property remain an ongoing concern for the National Party and farmers groups. Forests have been a key focus of environmental protests since the 1970s, and have led to the gazetting of heritage areas and national parks in fits and starts.

In more recent times, land use conflict has begun to play out over expanding coal and gas mining in rural parts of Australia. Here, we see rural communities and industry groups mobilise in opposition to this most recent chapter in Australia’s extractive developmentalism. There have been some tentative alliances between rural landholders with environmental organisations. On Federal climate policy however, there is no evidence of joint campaigns between rural industrial interests and environmentalists. The same goes for energy sector industries.

Federalism and the environmental movement

The development and management of emissions-intensive industries (e.g. electricity, mining, forestry, agriculture, manufacturing) has long been the purview of State governments in Australia. Australia has a three-tiered Federal political system: the Commonwealth (or Federal government); governments of the States and Territories; and Local Governments. The States and Territories have historically held central roles in the management of minerals, energy, and the environment that is regulated under intersecting State-based resource, planning, environment and heritage laws. These legal and institutional arrangements allow for the appropriation of resources. The climate

issue intersects with a range of other social and environmental issues that have led the state to re-regulate extractive industries over time.

There is a counter tendency against State and local level extractive industry governance. Federal level laws addressing global problems such as biodiversity and eventually climate change have emerged in response to transnational treaties and the arrival of environmental movements. New treaties such as UN *World Heritage Convention 1975* and the demands of the Australian environment movement have compelled the Federal government to take on new responsibilities (Papadakis & Grant, 2003). For instance after a heated campaign to stop three dams being installed on the Franklin River in Tasmania, the dispute was elevated to the national political sphere. The Hawke Labor government (1983-1991) was elected in 1983 with a promise to stop the dam construction. They first passed regulations under the existing *National Parks and Wildlife Conservation Act 1975*. The Federal government then passed the *World Heritage Properties Conservation Act 1983* which made provision for the protection of World Heritage sites, effectively prohibiting the Tasmanian State government's plans to dam the Franklin River.

The *Environment Protection and Biodiversity Conservation Act 1999* replaced the *Environment Protection (Impact of Proposals) Act 1974*. It is now the central piece of Federal environment legislation. The gains made through the EPBC Act were debated at the time. Critics observed that the list of 'matters of significance' designated under the Act are inadequate (Doyle, 2000). It does not include land clearing for instance (ACF, 2001). There are recurrent debates about 'green tape', a derogatory term for bureaucracy used by conservatives and business groups in campaigns to 'streamline' environmental approvals processes. There is a LNP proposal to devolve the Federal Environment Minister's powers under the EPBC Act to the States (Edmands, 2014; Nogrady, 2013; SMH, 2012). The constant debate about Federal versus State environmental responsibilities is a key part of the dilemmas facing environmentalists campaigning to stop new fossil fuel projects. I discuss this further in chapter 8.

Over the late 1960s and 1970s environmentalism developed into a new social force. The movement was diverse and tended to campaign on particular issues (Burgmann, 2003; Hutton & Connors, 1999). Campaigns dotted across the country targeted local sites of intensive forestry, mining, and urban development projects. There were campaigns to protect temperate and tropical rain forests along the eastern seaboard and in Western Australia, to stop mining, including uranium mining in Kakadu or sand mining on Fraser Island, or protecting the Great Barrier Reef (see Hutton & Connors, 1999). State-based conservation associations acted as conduits for many of the small local groups. Whilst localism was a strong strand in campaigns, as the 1980s and 1990s rolled on, anti-uranium and nuclear disarmament became defining transnational issues for the movement.

The environment movement consolidated in the 1980s. National environmental non-government organisations (ENGOS) arrived on the scene, notably the Australian Conservation Foundation (ACF) and The Wilderness Society (TWS) which was formed following the Franklin Dam campaign. International groups also set up. Greenpeace and the World-Wide Fund for Nature (WWF) opened offices in major cities in the eastern seaboard, and local chapters of the Friends of the Earth (FOE) appeared in cities, university campuses and some regional towns. The election of independent 'Green'

Party (Tasmania United Group) candidates in the Tasmanian State parliament in 1982, and the subsequent formation of the Tasmanian Greens were the world's first explicitly green party to win parliamentary seats.

Government funding provided for expanded campaign activities, assisted professionalisation, and institutionalised ENGO participation in politics. Federal Labor had provided funding for the State based conservation councils and the ACF as early as 1973 (Hutton & Connors, 1999: 123). Through the mid-1980s close ties were forged between the ALP and the ACF and TWS, this process was spearheaded by a small group of campaign staff (Doyle, 1990). As a result, the fortunes of peak environmental organisations fortunes became bound up with Labor and the electoral political cycle. And as this dynamic was developing, climate change politics arrived.

The focus and composition of the environment movement shifted in the early 2000s as climate change became a super-ordinate political concern. Climate change threatened gains made by forest campaigners and raised the stakes of mining campaigns (see chapter 6 and 8). The ascendance of movement mobilisations on climate change is a key theme in this research, not only in regard to the movement's role in climate policy, but also in regard to the alternate political terrain it has carved out during the carbon price debate.

Land use conflicts over new coal and gas projects have increased as a result of the mining boom. The cumulative social, economic and environmental impacts of the mining boom is now a major subject of public debate (e.g. ABC, 2011d, 2012b; Colebatch, 2012; Heath, 2015) and academic interest (e.g. Carrington et al., 2011; Franks et al., 2010; McIntosh, 2012). I read these new tensions as in part a response to the failure of carbon pricing (see chapter 8).

Federal climate policy and the search for flexibility

The following analysis picks up the story of relations between fossil fuel industries, environmentalists and the state from the 1980s, focusing on the issue of climate change. The purpose of outlining the history of Federal government climate policy here is to introduce the reader to the patterns of continuity in climate policy design, particularly with regard to the state's search for flexibility. Subsequent chapters deal with the political contestation over climate policy and legislation. The politics of climate policy design and implementation cannot be captured fully in this first telling of the Australian carbon pricing story, which I will expand upon in future chapters.

Early moves: Hawke-Keating governments (1983-1996)

Climatologists and other physicists were key agents in the early political movements on climate change in the late 1980s. Internationally, scientists and IGO experts were instrumental in instigating the international conference held in Villach, Austria 1985 and the World Meteorological Association conference held in Toronto in 1988 (Agrawala, 1998a, b). This in turn led to the World Climate Programme and the IPCC that preceded the establishment of the UNFCCC in 1992 (Paterson, 1996). In response to the international call for collaboration between scientists and policymakers, the Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO) held a 260 person *Greenhouse 87* conference (Pearman, 1989). The Climate Impact

Group was set up in the CSIRO in 1988, whose early climate change modelling highlighted the vulnerability of iconic Australian regions and the risks to key industries (Pittock, 2006).

At this point in time, the Australian government appeared to be somewhat of a leader in the 'agenda-setting' period of climate change negotiations. The Hawke government committed to an Interim Planning Target to stabilise emissions at 1988 levels in the year 1990 and reduce emissions by a further 20% by 2005. However, when announcing the target, the responsible ministers were adamant that this should not sacrifice economic growth. The then Minister for Environment and Minister for Primary Industries and Energy stated:

While recognising the need to restrict emissions and to aim for a 20% reduction, the Government will not proceed with measures which have net adverse economic impacts nationally or on Australia's trade competitiveness in the absence of similar action by major greenhouse gas producing countries. (Kelly & Kerin, 1990)

Emissions trading emerged as a policy preference within the Australian bureaucracy in early 1990s. Four working papers feeding out of the Ecologically Sustainable Development Process were dedicated to the idea.

Research project 1532 within ABARE produced reports discussing the principles of emissions trading from 1992 (ABARE, 1992). Economic advisors from ABARE argued that there was strong theoretical support for emissions trading as a cost efficient policy model; that emissions reductions were likely to be less expensive in developing countries; gains from international cooperation on climate policy were likely to be significant; and more research was needed into the design and costs and benefits from emissions trading (ABARE, 1993). This early policy work within the Federal government indicates the interwoven relationship between emissions trading as a policy preference and the state's search for least cost solutions, with an eye to least cost international solutions to climate change mitigation.

In the broader sphere of national political debate, the 'greenhouse effect' (a more common phrase than 'climate change' at the time) was quickly identified and framed by the government as an energy issue. In 1990, the Australian Minerals and Energy Council of Commonwealth, State and Territory Ministers published a report addressing this topic (AMEC, 1990), and set about drawing up plans for energy efficiency measures (without contemplating mandatory targets (Wilkenfeld et al., 1995). An Industry Commission report also recognised the cross-cutting issues between inefficiencies and investment patterns in the national electricity sector and the greenhouse issue (IC, 1991b). However, the independent effect of this report was to establish the case for commercialisation of the electricity sector in the name of efficiency. Reform of the energy sector has created its own problems and inefficiencies (see chapter 6).

Labor's 1990 election platform committed to environmental reform based on the Brundtland Commission's notion of 'ecologically sustainable development' (ESD). By this time, the green vote could not be ignored, as the Greens' balance of power in the Tasmanian State parliament was a sign of things to come. Once re-elected, the Hawke government engaged environmentalists in the formulation of ESD policy. The approach

was modelled on the tri-partite collaboration between the union movement and business which had also famously forged the ALP-ACTU Prices and Incomes Accord (Hay & Eckersley, 1993). It represented a desire on the part of government to ‘institute peace, stability and order to the [environmental] policy field in general’ (Economou, 1993). Peak ENGOs joined state bureaucrats, business and union representatives and some other peak community organisations in the ESD working parties. These parties mapped policies for key industry sectors as well as an overarching policy framework for climate change.

The Labor government ESD initiative laid the foundations for the national ENGO participation with climate change politics. The ACF and WWF both sat on the ESD Greenhouse Coordinating Group, an advisory committee to the ESD Chair.¹³ The corporatist model instituted by the ESD process mirrored processes in other parts of the world, for instance, the EDF and Nature Conservancy were involved in Project 88 in the USA. The result of the ESD process delivered a weak climate policy platform in the eyes of a number of environmentalists and critics (Diesendorf, 1993; Wilkenfeld et al., 1995).

Criticism from environmental campaigners ensued. Their critiques targeted the process and substantive outcomes of the ESD project, and point to the leading role of public servants in steering away from stronger policy measures. Bureaucrats took charge of drafting the final greenhouse policy recommendations and reportedly wrote a report that reflected little of what was discussed by the greenhouse policy working group. Mark Diesendorf (1993), then ACF representative, labelled this the ‘bureaucrat’s betrayal’. In the working groups themselves there was disproportionate representation of bureaucrats from the coal and oil industries (through the Business Council of Australia) and pro-industry Primary Industry and Energy and the Treasury departments.

The ENGO recommendations, which had received backing from some industry representatives and government members, were sidelined and the Strategy adopted a ‘business-as-usual’ approach. The final ESD strategy included guiding principles that climate change policy should ensure that no industry sector or region should suffer any adverse effect or disadvantage from the adoption of the policy, nor should it compromise continued economic growth, or be implemented ahead of other advanced industrial countries doing so (ESDSC, 1992). Overall, the Strategy did little more than review and endorse existing efficiency programs, committing to only fragmented new initiatives (Taplin, 1994).

Parallel to the ESD process, the Industry Commission was asked to investigate and report on the costs of greenhouse abatement. The report observed that unilateral action was costly, emphasised uncertainty of climate science and limits to economic analysis

¹³ The ACF conducted an internal appraisal of the costs and benefits of participation in the ESD process and decided to proceed (Burgmann & Baer, 2012: 255-256). Other peak organisations were more circumspect. Of those invited to take part in the ESD discussions, FOE elected not to participate, Greenpeace withdrew before discussions got under way and TWS withdrew when the NSW State government announced its the *Resource Security* legislation which guaranteed miners and forests secure access to resources. These differences in styles and approaches to dealing state agencies are still visible today amongst ENGOs.

of environmental problems and equity issues (IC, 1991a). Reflecting on the report, Industry Commissioner Tor Hundloe (1992) observed that the analysis was shaped by the body's statutory responsibilities and policy guidelines which emphasis efficiency.

The report recommended market-based climate policy (taxation or tradeable permits). In response, a concerted fossil fuel industry campaign against the report was waged against carbon taxation as a kind of 'bogeyman' through sympathetic reports in the *Australian Financial Review* (Hamilton, 2001: 33). This was the first instance of highly visible organised resource sector resistance to carbon pricing, and certainly not the last.

The *National Greenhouse Response Strategy* (NGRS) released in 1992 and endorsed by the Coalition of Australian Governments (COAG) was based on the concept of voluntary and 'no regrets' emissions reduction measures. The early nineties was a time when anxieties about the national economic risks of climate mitigation came to supersede environmental concerns (Bulkeley, 2001; Doyle, 2000).

The NGRS reflected views of the new Labor government under Prime Minister Paul Keating. With the succession of Paul Keating as Labor Prime Minister (1991-1996), the issue of mandatory emissions reduction target was allowed to lapse. No enabling legislation was produced, save a voluntary energy efficiency scheme (see Hamilton, 2001). The Keating Labor government was less environmental activist than the one led by Hawke. It would not use its constitutional powers to override State authority in the interests of the environment (Economou, 1999).

International recalcitrance: Howard government (1997-2007)

The Australian state became more hostile to pressures to act on environmental issues under the next Liberal/National Party (LNP) coalition government. The Howard government (1996-2007) withdrew a lot of the financial support dedicated to ENGOS, with the exception of WWF (Hamilton & Macintosh, 2004). The change in government effectively marginalised the environment movement from any real input in shaping government policy for the next decade (Maddison & Hamilton, 2007). The government shifted some environmental management responsibilities back to State governments and withdrew funding for those ENGOS that had not supported the coalition. This wrong footed the movement. Doyle (2010) makes the point that the meta-narrative of the environment movement was erased, and climate change as a key political concern was subdued.

On the other hand, the business community, and especially energy-intensive industries and coal mining, realised what they stood to lose should a meaningful climate change policy ever be implemented. Business set its course by developing an extraordinarily well-funded campaign to lobby government, support those departments sympathetic to the continued development of industry, and sway public opinion (Rosewarne, 2003). Conservative economists within the bureaucracy, and especially within ABARE, who would lead Australian officials in negotiations on the Kyoto Protocol, worked closely with industry associations to resist designing any agreement that would obstruct the continued growth of energy-intensive industries and mining (Hamilton, 2001; G. Pearse, 2007).

As the climate policy debate progressed, fossil fuel firms - notably from coal, electricity, aluminium, petroleum, minerals and cement - have developed focused campaigns through industry associations. In the mid-2000s, the growing power of mining companies and their expanding operations had politicised fossil fuel extraction. Through industry groups, most notably an association called the Australian Industry Greenhouse Network (AIGN) the resource sector contributed to a society wide sense of 'quarry vision' (G. Pearce, 2009). Fossil fuel companies and heavy energy users had deep personal connections with the LNP Government.

Under the Howard government climate policy options continued to be restricted to deliberation over competing types of market-based mechanism: emissions trading, emissions taxation, voluntary efficiency programs. With regard to carbon trading as a policy option, parliamentary representatives of the next LNP government under Howard provisionally aligned with the emerging consensus among economists. For instance, former Environment Minister Senator Robert Hill stated:

Australia supports emission trading in principle, recognising its possible contributions to improving the cost-effectiveness of emission reduction. (Hill, 1997a)

Some movement towards emissions trading did occur in the early days of the Howard government. In 1997-99 a Parliamentary Committee, the Industry Commission and Australian Greenhouse Office (AGO) all reported to the government on principles for the design of an emissions trading framework. The technical discussion ranged from establishing property rights, penalties, international linkage arrangements and carbon permit allocation (AGO, 1999a, b, c, d; IC, 1997).

The international position taken by the Australian government was even less cooperative under the Howard government than the previous government (Christoff, 2005). The Australian delegation that participated in the Kyoto UNFCCC deliberations joined the 'Umbrella Group' made up of the United States, Japan, Canada, New Zealand, Russia, Norway and the Ukraine (JUSCANZ) in pressing the case for differentiated emission reduction targets for advanced industrial countries.

Despite the advancing discussion within the UNFCCC and parts of the Australian bureaucracy, emissions trading was abandoned by the Howard government in the early 2000s. The party favoured voluntary programs for efficiency and technology development instead. For instance, Australia participated in setting up the Asia-Pacific Partnership on Clean Development and Climate (AP6) - a voluntary framework for technology transfer. It was also an attempt to create an alternative to UNFCCC multilateralism (Lawrence, 2009). In the national and international debate about emissions reduction, the government emphasised the unique disadvantages for Australia as a fossil-fuel dependent nation.

Controversial economic modelling by ABARE supported this claim (ABARE, 1997). Critics of the modelling argued that it neglected factors that could reduce the cost of emissions reduction such as energy efficiency and technological and exaggeration of carbon leakage risks (Diesendorf, 1998; Hamilton, 1997; Hamilton & Quiggin, 1997). Expert critics argued that this analysis and the state strategy it supported, meant Australia was contradicting established international norms in environmental

agreements like the UNFCCC such as the ‘polluter pays’ and ‘ability to pay’ (Hamilton, 2001; McDonald, 2005).

Diplomatic representatives put forward a particular interpretation of the norm of ‘common but differentiated responsibility’ in international fora. Former Federal Minister for the Environment Senator Robert Hill called this ‘the differentiation agenda’ (Hill, 1997b). He argued against uniform targets for developed nations, on the basis that it disproportionately harmed the Australian economy. A former member of the Australian negotiating team described the strategy between 1996 and 1997 as based on four firm principles:

- (1) getting some recognition from developing countries but they had a part to play in emissions reduction, (2) differentiating targets, (3) establishing a basis for flexibility mechanisms for emissions trading, and (4) addressing the inequities of the 1990 baseline. (Anonymous, 2014d)

The infamous result of Australia’s international campaign for differentiated responsibility was Australia’s 108% emissions target under the Kyoto Protocol, as well as favourable emissions accounting rules in the Protocol. At the eleventh hour of Kyoto Protocol negotiations in 1997, Australian negotiators insisted on a particular way of treating emissions from land use, land-use change, and forestry (LULUCF) in the Protocol text. Inclusion of Article 3.7(2) (the “Australia Clause”) exaggerated the national baseline year 1990, which included LULUCF emissions. Australia recorded high emissions from the LULUCF sector that year, before it fell in subsequent years. The clause operates as an ‘offset’ and has hidden the 143% increase in emissions in all sectors since 1990 (see, Hamilton & Vellen, 1999; Macintosh, 2010).

Another type of market mechanism was legislated by the government, which had promised in 1997 to introduce a 2 per cent renewable energy target for the electricity sector. In 2001 the Howard government introduced a Mandatory Renewable Energy Target (MRET) of 9,500 GWh of new electricity generation by 2010. The MRET was a proposal from the AGO in 1997 which had been pursued in a weak form in Parliament. The scheme amounted to less than 1 per cent of total electricity from renewable sources but the small incentive gave the wind industry an unexpected boost (Hamilton, 2007). The MRET was not extended after a review despite initial success and a review suggested it should be doubled. It was revealed that Prime Minister Howard had consulted 12 companies in making this decision. The Lower Emissions Technical Advisory Group included Exxon Mobil, Rio Tinto, BHP Billiton (fossil fuel producers) and Alcoa, Holden, Boral, Amcor, Energex, Edison Mission and Origin Energy (large fossil fuel users and generators). Leaked notes from the meeting illustrated the intimate relationship between the Howard government and fossil fuel interests (Hamilton, 2006).

By the mid-2000s industry capture of climate policy was a subject of debate, and there was a new sense of urgency and popular awareness about climate change (see chapter 4). With growing public pressure for climate action, Howard shifted back to the process of considering an ETS.

The ALP first signalled tentative plans for an ETS in 2004 under former leader Mark Latham (*SMH*, 2004; Wilson, 2004). Labor opposition leader Kim Beazley announced climate policy plans in October 2006. At the ALP National conference in 2006 Beazley

announced the party's intent to ratify the Kyoto Protocol, introduce an ETS, and set a target of reducing Australia's emissions by 60 per cent on 2000 levels by 2050 (Crouch, 2006).

Emissions trading has tended to represent more meaningful government action in the climate policy debate. The first substantial shift occurred in December 2006 when Howard commissioned a government-business task group to investigate the design of an ETS in Australia (PMC, 2007). The Emissions Trading Taskforce was made up of senior public servants and industry representatives. The taskforce and process was criticised for having narrow representation, and in response Howard announced that a discussion paper would be released for comment from environment groups, the states and public (Coorey, 2006).

The Task Group recommended a national ETS on the basis that market-based regulation delivered 'least cost' emissions reductions. The group proposed a national cap-and-trade scheme be designed with freely allocated permits to select 'emissions intensive trade-exposed industries'. The Task Group argued agriculture should be excluded and suggested an ETS should be linked to international and domestic offsets. The Report also recommended that grandfathering permits was fair and vital for political palatability, and linkage to offsets was important for cost minimisation. These recommendations and the underlying political assumptions reflect those of other experts discussed in chapter 1.

International carbon offsets emerged at this point in time as a key strategy for displacing the emissions reduction task elsewhere. The Task Group proposed offsets from REDD+ in the Asia-Pacific were a means to reduce abatement costs. The group of senior public servants and industry representatives recommended that 'an integral part of Australia's international climate change strategy should be to develop the elements of a future Australian approach to international offsets'. The risk analysis for the Australia state in this document is focused on 'flexibility' and 'least cost' abatement through terrestrial offsets. With regard to 'positioning Australia for international developments' the taskforce stated:

Australia has an interest, for example, in leading the way in the development of approaches that maximise the potential of carbon sinks to contribute to the abatement task... Current international rules neither create nor recognise international trade in credits for avoided deforestation, reducing scope for market-based incentives to play a role in reducing land clearing. Australia has a broader interest in pioneering approaches to develop international cooperation to avoid deforestation, including methodologies that may become part of future global emissions trading systems. This may be one of the approaches to climate change that could be explored within the Asia-Pacific region. (PMC, 2007: 111)

Aligned with this strategic intent, a climate change aid program to develop REDD+ demonstration activities was already underway. Prime Minister John Howard made the first announcement of the *Global Initiative on Forests and Climate* on 29 March 2007 (Howard et al., 2007). The funding announcement was AU\$200 million for projects in selected developing countries in the Asia-Pacific region. This includes technical assistance for a Global Carbon Monitoring System, funding for the World Bank Forest Carbon Partnership Facility, and a pilot REDD project called the *Kalimantan Forests and Climate Partnership* (KFCP) announced 9 September 2007.

The political purposes of these experiments in REDD were clearly stated. Policies that institute tradeable rights to land carbon is a longstanding displacement strategy that begins with the Howard government and extends into the present period (R. Pearce, 2013). The LNP government spruiked the KFCP as having ‘the potential to reduce greenhouse gases by a greater amount than Australia’s total annual emissions’ (Downer & Turnbull, 2007). The next government for international carbon sinks continued the search.

Putting a price on carbon: Rudd-Gillard governments (2007-2014)

The Howard government was unable to legitimate its revised support for a national ETS. It was the Rudd Labor government that developed federal legislation for carbon trading in parliament first. Rudd won the election in November at least in part on the basis of Labor’s position on climate change (Rootes, 2008). Across the Federal election year of 2007, Labor Premiers and federal ministers began a campaign for carbon trading. In the lead up to the 2007 election, the ALP commissioned economist Ross Garnaut to undertake independent study of the impacts of climate change on the Australian economy.

Once the Rudd government was formed, Garnaut and the newly created Department of Climate Change (DCC) set to work on designing the national carbon trading scheme in 2008. The Rudd government’s *Carbon Pollution Reduction Scheme* (CPRS) was never legislated. Across 2009, dissent to a bipartisan deal over carbon trading grew within the opposing LNP. This conflict led to the removal of its former leader Malcolm Turnbull in November 2009. And in early 2010 Rudd himself fell victim to a move within the Labor Party to abandon the CPRS and replace the leader.

The emission emissions reduction targets announced in 2009 also built a series of conditionalities into them that reflect a longstanding continuity in Australian Federal government climate policy. Even moderate emissions reduction costs were contingent upon the actions of other states. The White Paper outlined targets of 5% below 2000 by 2020 on a unilateral basis or up to 15% below 2000 by 2020 ‘where major economies agree to substantially restrain carbon pollution and advanced economies take on reductions comparable to Australia’ (DCC, 2008a: iv). The DCC (2009: 1) specified these conditions in detail:

1. comprehensive coverage of gases, sources and sectors, in the agreement with inclusion of forests (e.g. REDD) and the land sector (including soil carbon initiatives (e.g. bio char) if scientifically demonstrated);
2. a clear global trajectory, where the sum of all economies’ commitments is consistent with 450 ppm CO₂-e or lower, and with a nominated early deadline year for peak global emissions no later than 2020;
3. advanced economy reductions, in aggregate, of at least 25 per cent below 1990 levels by 2020; major developing economy commitments to slow growth and then reduce their absolute level of emissions over time, with a collective reduction of at least 20 per cent below business-as-usual by 2020 and a nominated peak year for individual major developing economies;
4. global action which mobilises greater financial resources, including from major developing economies, and results in fully functional global carbon markets.

The DCC defined what a ‘fully functional global carbon market’ was for the Australian Senate as Australia having access ‘to a broad range of international trading mechanisms’.

We are not talking about how every country has to be participating in a particular market; it is just that there is a deep and liquid market available... if current global carbon markets or the expected growth of those disappeared so that you are in a situation where all abatement had to occur domestically, that commitment would not be met, and the nature of the global carbon market would have to be looked at by the independent review that would feed into the minister’s decision. (Comley, 2009: 4)

These conditions connect to the prior government’s focus on land carbon sinks. Sinks are a recurrent displacement strategy in Australian climate policy. For instance, the Rudd government extended the Howard government’s experiment in forest carbon offsetting. In 2008 the Rudd and Yudhoyono signed the Indonesia-Australia Forest Carbon Partnership and stated:

Our Governments’ ultimate aim is to ensure that future international carbon markets provide incentives for reducing emissions from deforestation and forest degradation, and that both Indonesia and Australia have in place the policies and technical capacities needed to participate fully in these markets. (Yudhoyono & Rudd, 2008)

The 2007-2012 *Australia-Indonesia Roadmap for Access to Carbon Markets* planned Indonesia’s participation in the voluntary carbon market (DCC, 2008c). In this plan, carbon offsets produced in Indonesia would then be integrated into the UNFCCC compliance regime that was expected to replace the Kyoto Protocol. The fate of this program was less grand than the initial announcements. Troubles with REDD governance and international linkage are discussed further in chapter 6.

In a twist of fate, the Labor Party led by Gillard formed a minority government in coalition with the Greens and two independents after the 2010 Federal election. The ALP, Greens and independents struck a deal to install a carbon price. A carbon trading scheme was the centrepiece of Australia’s *Clean Energy Future* package - a suite of 19 bills passed in both houses of Federal Parliament on 8 November 2011.

The principal bill defining the legal framework for the national emissions trading scheme is the 2011 *Clean Energy Bill*. The objects of the bill are: to give effect to Australia’s obligations to support the development of an effective global response to climate change, consistent with Australia’s national interest in ensuring that average global temperatures increase by not more than 2 degrees Celsius above pre-industrial levels; to: take action directed towards meeting Australia’s long-term target of reducing Australia’s net greenhouse gas emissions to 80% below 2000 levels by 2050; and take that action in a flexible and cost-effective way; to put a price on greenhouse gas emissions in a way that: encourages investment in clean energy; and supports jobs and competitiveness in the economy; and supports Australia’s economic growth while reducing pollution (Section 3, Commonwealth of Australia, 2011c).

These objects contain the explicit distributive aim to protect national competitiveness and economic growth. In regard to the national economy, the goal of the CEF is described elsewhere as ensuring ‘growth in domestically produced carbon pollution

slows' (DCCEE, 2011: xii). Slowing the rate of emissions growth in the national economy, also means national emissions will rise (Lo & Spash, 2012).

Whilst the long-term emissions target of 80 per cent reduction on 2000 levels outlined in the bill is commendable, the mid-term national emissions target is the most crucial and was unambitious. The Rudd-Gillard government committed to only 5% reduction of national emissions below 2000 levels by 2020. The Climate Change Authority assessment argued that this is small compared to goals of major economies such as the US, China and UK. Two additional 2020 targets of 15% and 25% were conditional on international action. The ALP did not appear likely to take the decision to increase the targets before losing the 2013 Federal election.

The offset mechanisms that are designed to provide 'flexible' and 'cost effective' emissions reduction put the short and long term commitment to emissions reduction into further question. Minimal domestic reductions in emissions were forecast in Treasury's 2011 modelling of the carbon price, which estimated domestic emissions would increase and peak in 2028 and reduce marginally by 2050 (Treasury, 2011c: 91). The long-term prediction for net domestic emissions in 2050 is 545 Mt CO₂-e, which is equal to only a 2 per cent reduction on 2000 levels. This is possible because of the rules for international carbon trading.

The quantity of offset credits allowed into the carbon trading market was constrained, though the limits placed on access to international abatement mean that domestic emissions reductions below the 2000 level were unlikely.¹⁴ International trading was scheduled to begin in 2015,¹⁵ and up to 50% of emissions units retired are allowed to come from international credits. Again, this highlights the logic of displacement embedded in the ETS design.

The offset regulations instituted in 2012 are an improvement upon the previous CPRS which had no restrictions on carbon units recognised. However, international offsetting remained a key feature of the ETS that was instituted as part of the CEF package. Government documents illustrate the role international offsets were anticipated to play

¹⁴ The *Australian National Registry of Emissions Units (ANREU) Act 2011* defines eligible international units positively (Section 4, Commonwealth of Australia, 2011a): a certified emission reduction (other than a temporary certified emission reduction or a long-term certified emission reduction from afforestation and reforestation projects); or an emission reduction unit (ERU); or a removal unit (RMU); or a prescribed unit issued in accordance with the Kyoto rules; or a non-Kyoto international emissions unit.

The quality of offsets linked to the Australian carbon trading scheme were controlled via exclusions on units recognised above. These are instituted by regulation under section 38 of the *Legislative Instruments Act 2003*. Excluded international offsets were: credits from CDM forestry (A/R) projects, industrial gas projects, nuclear, and large hydroelectric dams. A 12.5% sub-limit was placed on emissions credits that can be sourced through offsets recognised under the Kyoto Protocol. These exclusions are welcome insofar as they demonstrate learning from the well documented problems for offsets under the UN CDM program. EUAs became a 'prescribed unit' under section 4 of the ANREU Bill (Clean Energy Regulator, 2013). Carbon market participants may use EUAs in up to 37.5% of the retired units in a given year.

¹⁵ However, the Rudd government announced in 2013 that it would bring these forward to 2014 (see chapter 5).

in the national carbon accounts. The former Federal government's *National Emissions Projections* report expected 'abatement' with a carbon price would come from the purchase of international carbon credits (DCCEE, 2012a). The domestic emissions projected for 2030 is 630.97 Mt CO₂-e. This is above the 2000 level of 565.49 Mt CO₂-e. International units are anticipated to provide all of the abatement needed to reach the goal of 395.84 Mt CO₂-e (-5% below 2000 levels). See Figure 3.3.

As discussed in the previous section, reliance on international abatement is a long standing preference of Australian governments. The Howard government recommended international linkage on the basis that it served the national interest (PMC, 2007: 88-89). The *Garnaut Review* also argues that rules to permit linkage to carbon offsets would create 'efficient' distribution of costs (Garnaut, 2011a: 17).

Regulatory issues surrounding carbon offsetting became points of contention between 2010 and 2014. Perhaps one of the most surprising debated topic in recent years is that LNP party representatives have been vocally opposed to reliance on international carbon markets. Putting aside the cynical tactics behind these positions for now (see chapter 8), the topic of international carbon trading is an important governance issue (see chapter 6). The Gillard government also introduced a domestic land sector offset scheme. The *Carbon Farming Initiative* (CFI) was announced during the 2010 election. It was a departure from the Rudd government's ETS which had given compliance obligations to the agricultural sector. I discuss the regulatory problems with the CFI in chapter 6.

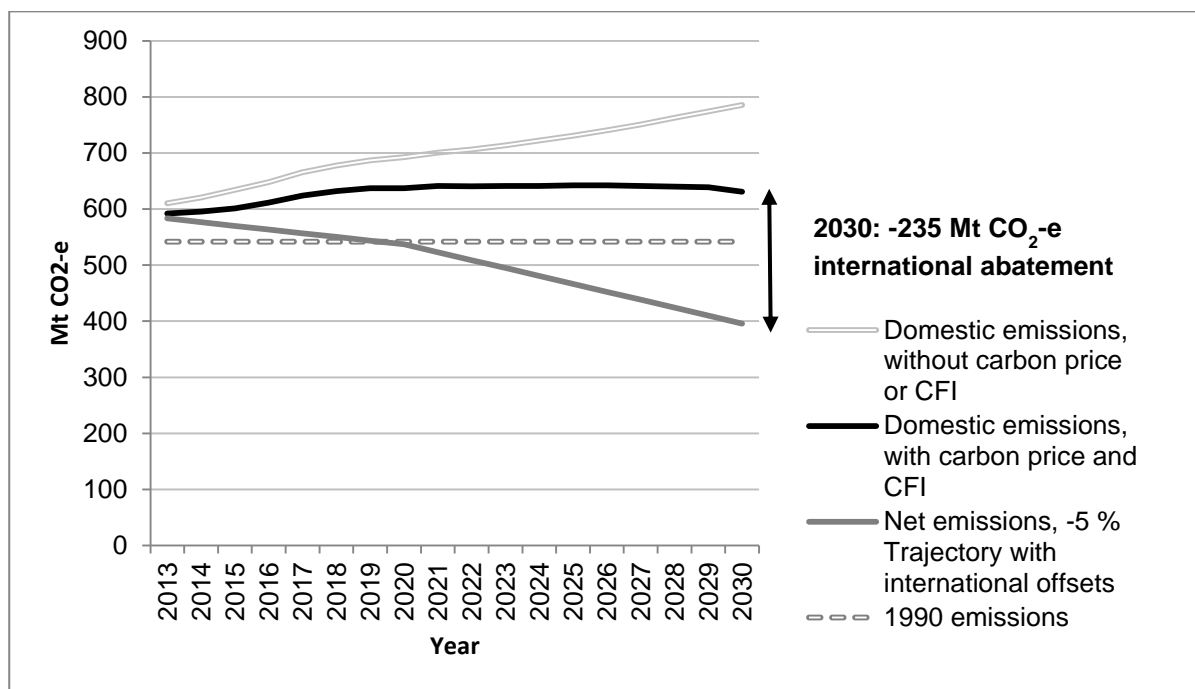


Figure 3.3 ALP government projected domestic emissions for Australia 2013-2030

Source: (Data sheet figure 10, DCCEE, 2012a)

Threats of capital flight and rent seeking have defined the industry response to the carbon price debate. Between 2008 and the 2012, considerable gains were made by industry opposing the extent of coverage under the carbon trading scheme (see chapters

4 and 5). The CEF package covers 300 hundred firms (down from 1000 in the CPRS), and involves considerable payments to the largest polluting firms without public assets being generated from it (Lo & Spash, 2012). These costs are a considerable fiscal burden borne by wider society through the tax system. This illustrates that far from being cheap, carbon trading has proven to be costly to the public and consumer purse (Rosewarne, 2010).

The industry compensation package not only undermined the emissions reduction potential of the scheme, it also increased the wealth of some of Australia's most emissions-intensive corporations. Free allocation of emissions units is the primary mechanism for industry compensation in the package costing AU\$9.22 billion up to 2014-2015 (Treasury, 2011a). Firms received between 50% and 94.5% of their emissions permits for free, reducing 1.3% per annum (MPCCC, 2011). Steel, cement, aluminium, glass industries received the highest rate of assistance; plastics and chemical manufacturing, tissue paper manufacturing and ethanol production attract 66%; Liquefied Natural Gas (LNG) attracted 50% of permits for free (negotiated in the CPRS debate).

Additional compensation was provided as cash payments and grants to the steel and coal industries (AU\$4.37 billion) (Treasury, 2011b).¹⁶ 'Contracts for closure' payments for 2000 megawatts of highly polluting generation capacity by 2020 (AU\$5.5 billion) were cancelled by the Gillard government in August 2013 after the Federal government and five energy producers could not negotiate an agreement on the value of coal power assets. The government argued that the program did not represent value for money (ABC, 2012c).

There are significant flaws in the Rudd and Gillard Government's justification for the other elements of compensation under the CEF package. The CEF legislation has a weak definition of carbon leakage. The goal of the Jobs and Competitiveness Program in the *Clean Energy bill* is:

.. to reduce the incentives for such an activity to be located in, or relocated to, foreign countries as a result of different climate change policies applying in Australia compared to foreign countries. (Section 143, Commonwealth of Australia, 2011c)

The Grattan Institute pointed out that the Jobs and Competitiveness Program does not provide a legal definition of carbon leakage that would test whether production is moving offshore in response to the carbon price, and what impact this movement is having on emissions (Wood & Edis, 2011). Even a \$40/tonne carbon price the LNG, coal mining and steel sectors would not face a significant cost factor threatening jobs, or market expansion.

Nonetheless, these industries have been awarded high levels of compensation, and enjoyed windfall profits. CME analysis for Environment Victoria estimated that between \$2.3 and \$5.4 billion in windfall profits would go to brown coal generators that

¹⁶ These are estimates to 2014-2015. This compensation was reduced for future years in the 2013 budget. (Treasury, 2013)

have passed on more than the full costs of the carbon price to consumers (CME, 2013). This has means that brown coal generators (which are more emissions-intensive) have been able to remain competitive with black coal generators (Chattopadhyay, 2013).

The adequacy of household compensation in dealing with the regressive impacts of pricing can also be called into question. Emissions trading brings the risk of having a regressive impact on wealth distribution. Cap-and-trade schemes applied to fossil fuels have an effect on energy prices and on all other goods and services. As a result, the burden of carbon costs are disproportionately placed on low-income households since they spend a larger proportion of their wages on goods impacted by carbon pricing, such as electricity, fuel and groceries.

This is a risk the chief advising economist to the ALP Governments Ross Garnaut was aware of. He reported that compared to high-income households in Australia, low-income households spend a greater proportion of income on basic necessities such as food, transport fuel, gas and electricity (Garnaut, 2008a: 387). This and the pushback from the then opposition leader Tony Abbott claiming carbon trading is equivalent to ‘a great big new tax on everything’ (Taylor, 2009g) no doubt prompted the Labor government to emphasise the compensation package in public debate. In fact, Labor claimed to be ‘over-compensating’ households (Kelly, 2011).

Household compensation has occurred through increases in social security payments and progressive tax reform (DSS, 2013). The CEF Treasury estimates that 90% of households will be better off as a result of the package (Treasury, 2011c: 54).¹⁷ However, there is reason to be dissatisfied with the claim that 90% coverage is an equitable outcome. Although the average income tax rates were lowered for the two tax brackets, the marginal tax rates increase for another two which covers around two million taxpayers (Robson, 2014). Further, the Australian Council of Social Services has found that because of existing inequities in the current social security payments, the package does not offer the same level of assistance to unemployed people, sole parents and students on income support as it does to pensioners in comparable circumstances (ACOSS, 2011).

Finally, the empirical basis for determining the compensation has been critiqued. Perry, Rosewarne and White (2013) analysed the Treasury modelling of the impacts of the carbon price. The modelling is based on general equilibrium models of market conditions in order to estimate levels of compensation necessary over time. They argue this work underestimates future costs by exaggerating the possibilities for substitution and ignores the impact of oligopolistic market structures on price increases and infrastructure investment. Energy markets in Australia are characterised by large multinationals and oligopolistic electricity producers and retailers (Spash, 2010). Current and future wealth distribution is governed by power relations (re-)produced through regulation of the sector, not competitive market dynamics.

¹⁷ This is supported by CSIRO research for the Climate Institute. (Hatfield–Dodds et al., 2011)

Carbon price repeal and ‘Direct Action’: Abbott government (2014-)

The ETS legislation has since been repealed. The CEF package was subject to a strong campaign by conservative politicians and vocal public figures who opposed it (chapter 7). The current LNP government has instituted a competitive grants scheme in place of the ETS. The new ‘Direct Action Plan’ again highlights the use of the land sector as a source of responsibility displacement, and protection for the fossil fuel and energy-intensive industries.

The Direct Action Plan deserves critical attention. The main feature of this plan is a competitive grants scheme under which applicants would submit proposals for emissions reduction activities. Voluntary ‘no regrets’ climate policy has been criticised by policy and law researchers as a weak regulatory approach, designed to be ‘sympathetic to narrow industrial interests’ (Hamilton, 2001; Lyster, 2003-2004: 563; G. Pearce, 2007). The basis of objection to voluntary emissions policy lies in what it omits from regulation. By refraining from placing compulsory obligations on industry, voluntary programs are definitively weak.

However, it is important to recognise the similarities between the carbon trading policies and previous voluntary programs on this count. Despite being compliance-based policy for climate change mitigation, it has also been designed to fit with Australia’s economic protectionism and a weak definition of national responsibility. We cannot take for granted that carbon trading is better than voluntary measures, nor can we assume it is supported by superior ethical and moral credentials (R. Pearce, 2014a).

In 2010, the current Prime Minister and former LNP leader announced an alternative Direct Action Plan (DAP) for emissions reduction. The Plan centres on a competitive grants scheme called the Emissions Reduction Fund (ERF), and is ‘complemented by’ the extension of a conservation program employing young people. The LNP’s ‘Green Army’ is modelled on the Howard government’s Green Corp’s program. It is 3-year \$150 million scheme employing young people at minimum wage (some below) to engage in conservation programs.

The main component of the DAP is a \$2.5 billion ERF. The ERF is a competitive grants scheme where project developers will compete with each other for funding. Those promising the cheapest emissions abatement from things like reforestation, fire management, and efficiency measures will win tenders. For very good reason, the scheme has been criticised for its lack of environmental integrity and regulatory complexity (Denniss & Grudnoff, 2011b; The Greens, 2013). To these criticisms we can add that that fund will transfer the weak methodologies recognised in the previous government’s ‘carbon farming’ offsets scheme over to the current proposal (chapter 6). The logic of displacement via carbon sinks is common to the DAP and an ETS.

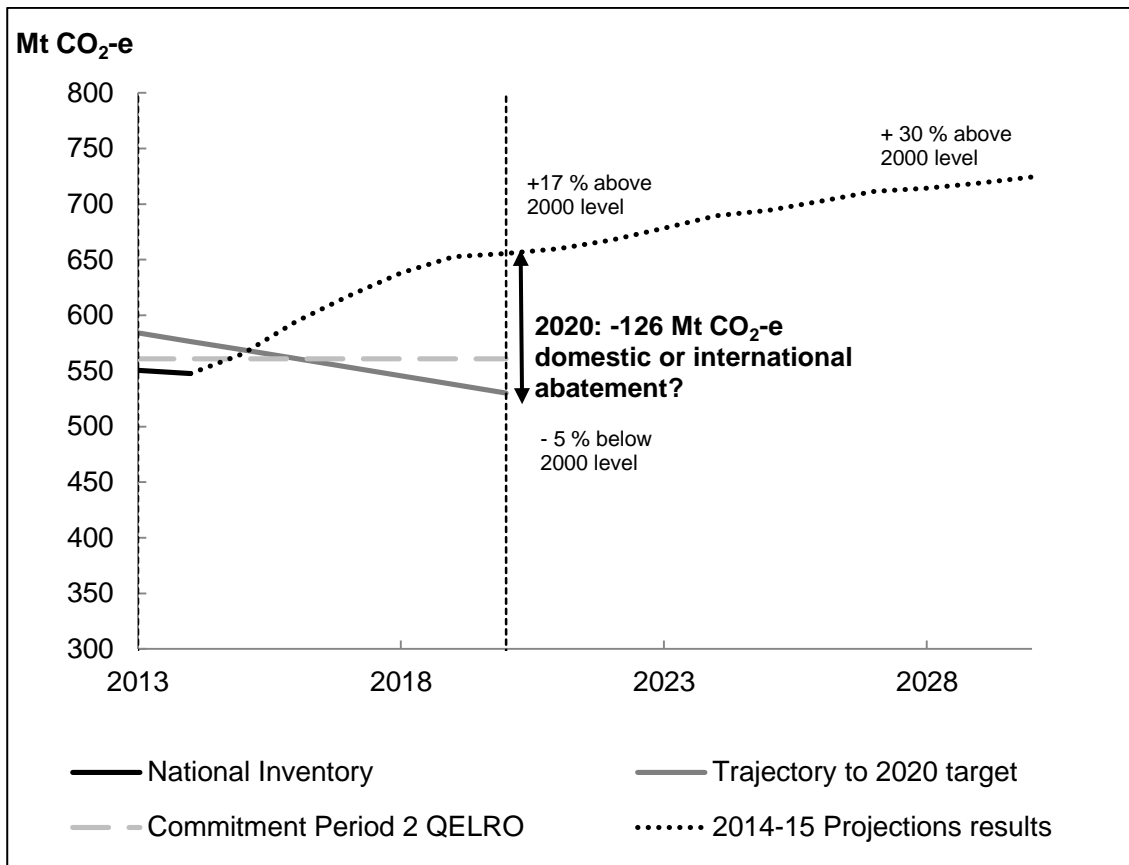


Figure 3.4 LNP government projected domestic emissions for Australia 2013-2030

Source: (Data sheet figure 2, DOE, 2015a)

The contracts for carbon abatement projects are for 3-7 years, so render any reductions impermanent. The ERF White Paper outlines a ‘safeguard mechanism’ in an attempt to address the critique (DOE, 2014b: 51-57). Approximately 130 businesses with significant emissions profiles (emissions of more than 100,000 tonnes of CO₂/yr) will be given a very loose ‘baseline’ of emissions that should not be exceeded. Detail on what penalties there would be, if any, if companies’ emissions were to exceed the baseline is currently under debate. The likely result will be that firms that exceed their baseline will be required to purchase carbon offsets (DOE, 2015b: 20-21). This likely regulatory arrangement would effectively be a baseline-and-credit carbon offset scheme.

The DAP is just as weak as carbon pricing in environmental terms. The projected domestic emissions levels under this scheme are similar to those contained in the CPRS and CEF projections. The LNP government projects and promises domestic emissions will be 555 Mt CO₂-e by 2020 (DOE, 2013: 3). What is lost (for now) is reliance on international abatement (see chapter 8). The LNP projections are lower than the Labor projection of 621 Mt CO₂-e by 2020. Just how this can be achieved with a voluntary competitive grants scheme with no compliance component is unclear. There is a real risk that the DAP will fail, and the Australian state may be forced to secure international

offsets in order to meet its UNFCCC commitments.¹⁸ Further, industry groups have submitted to the government that access to international credits for any future compliance obligation is desirable as a cost reduction measure. Figure 3.4 highlights the abatement task projected by the government.

The political significance of the current government's campaign against the carbon price and its policy alternative is explored further in subsequent chapters. The DAP is a political challenge to the regulatory preferences established by economists who have long advocated carbon trading from the political centre. However, the DAP is far from the *laissez-faire* approach of the 'free market environmentalism' articulated by some economists in the literature on environmental policy (Anderson & Leal, 2001). The Plan is also derided by Australian conservative intelligentsia and some parts of industry (see chapter 5 and 8). In other words, the DAP is no more stable a political response than carbon pricing and will no doubt contribute to further legitimisation crises for the current government.

Conclusion

Climate policy in Australia has been defined by heated debates over who bears responsibility for climate change mitigation, and more crucially, how those responsible might act on it. All policies that are already in place or on the table should be understood as a part of the history of the government's positioning on this political issue since the 1990s. This analysis of the political development of climate policy, key policy documents, the ETS legislation, and related economic analyses show that the intended distributive impact of Australian climate policy has been to displace national responsibility for emissions reduction away from the national resource and energy-intensive sectors to other industries. Land sectors in rural societies of the Asia-Pacific and rural Australia have been a notable object of policy focus in the thirty year history of climate policy in Australia.

The logic and design of marketised climate policies have co-constituted this strategy, from the brief installation of an ETS, carbon offset programs, and now the DAP, which is likely to become something like a baseline-and-credit scheme. This illustrates that marketised emissions management policy is a state strategy for climate crisis displacement. This history of Australian climate policy illustrates that states can deploy marketised climate governance as a means to protect territorially defined interests (Bailey, 2007). Importantly, success is not easily realised. The design and implementation of carbon trading, and different forms of carbon offsetting have been beleaguered with problems. Chapter 6 considers the substantive failures of carbon pricing in practice in more detail.

On the basis of policy design alone, we can conclude that Australia's carbon trading scheme was a very weak instrument for emissions reduction, and unjust in terms of its intended distributive impacts across industry sectors and between nations. The CEF package did not allocate the burdens and benefits of carbon trading fairly (R. Pearse, 2014a). The regulation of carbon offsets and compensation arrangements make an

¹⁸ Thanks to Stuart Rosewarne to drawing my attention to this issue.

overall increase in inequality a likely result of the scheme. The unambitious emissions cap has also hamstrung the potential for Australia's carbon price to meet national responsibility for emissions reduction. This distributive outcome represents a continuation of Australia's recalcitrant positioning in international debates over global climate change mitigation.

Meanwhile, the alternative climate policy framework of the current government bears resemblance to these flaws. The LNP's DAP has been conveyed as an alternative to carbon trading, but it is not entirely novel when put into historical context. In both the LNP and Labor climate policies the production of carbon sinks serve as social protection for fossil fuel capital. What differs is the territorial logic and the type of marketisation being instituted. A slim hope in the Direct Action debate lies in the potential that a refocus on domestic emissions abatement occurs. However, there is real concern that the policy will fail, and that the Federal government will need to purchase international carbon credits through the Kyoto offset regime to realise its emissions reduction commitment under the post-Kyoto period.

More generally, this historical analysis of policy design and legislation shows that the intended distributive outcomes of carbon pricing are core topics of contestation. In the period of political debate this thesis covers, competing claims about the costs and benefits of carbon pricing filled media space, parliamentary debates, and dinner table conversations across the country. This contention often consisted of embellishments from all sides of politics (see chapter 8). The ongoing public discussion about these issues is evidence that ethical and moral themes are endogenous to the political process of instituting climate policy. The national economic protectionist agendas visible in policy design reflects that a particular definition of 'fairness' is at work the state's attempt to manage the climate crisis, as does the public debate over the impact of pricing mechanisms on household cost of living, and the less debated issue of whether the nation should rely on international carbon sinks. Overall, we can say the legitimisation of carbon pricing relies on a degree of resolution between these competing forms of fairness in policy design.

Subsequent chapters will look at evidence of change in contestation over state strategies on climate. The agents involved are diverse and have shifted their strategies markedly. Over time, industry groups shifted from relatively willing participation in the early days to concerted obstruction in the 1990s and early 2000s, to focus rent-seeking when carbon pricing arrived. One generation of environmentalists professionalised through climate policy processes, and then saw a new version of grassroots 'climate activism' inject new visions and strategies for change (Rosewarne et al., 2014). These dynamics of conflict will be traced in detail from here.

4 Failure of the CPRS

Dissensus over carbon pricing and legitimization crisis

Introduction

During the 2007 Federal election campaign the Labour leader Kevin Rudd famously declared climate change to be the ‘great moral challenge of our generation’ (Rudd, 2007). When in government, the ALP set out to design and legislate an ETS. The policy design process spanned most of 2008, then a bitter battle within Federal Parliament over the legislation ran throughout 2009. The *Carbon Pollution Reduction Scheme* (CPRS) was ultimately shelved in April 2010, and soon after Rudd lost the leadership in a factional manoeuvre within the ALP.

In April 2010, the new Labor leader Julia Gillard announced that the ALP would go to a Federal election without an ETS proposal in favour of efficiency standards on new coal power stations, renewable energy finance, and a year-long 150 person citizens assembly to ‘examine the evidence on climate change, the case for action and a market-based approach to reducing pollution’ (Massola, 2010). The political impetus for marketised climate policy was weakening.

This chapter details the key sites and dynamics of conflict over the CPRS between 2007 and 2010. It argues that the dissensus over this legislation was a first sign that in Australia carbon pricing has turned out to be an unsuccessful state strategy for managing the climate crisis. The state is an arena of political contestation, not a unified entity. Contention over the CPRS occurred in multiple sites. A lengthy consultation process was convened by the Federal government, which in turn spilled into the floor of Parliament, into national media headlines, and occasional public protests. Consensus for carbon pricing was thin amongst experts and NGO representatives engaged in the design process. Beyond motherhood statements for pricing carbon, experts, political

parties, industry and NGOs did not agree on the terms of the CPRS, or on the specifics of policy design. Far from there being an apolitical consensus for carbon pricing, the failed CPRS shows actors were divided on numerous fundamental issues, notably about the nation's responsibility for emissions reduction and the future of energy and resource sectors.

The design of the ETS was very clearly the minimum necessary the Government could promise and stay true to its claim to be an international climate leader. When the CPRS legislation did not succeed in Parliament, and then was shelved, the Labor Government no longer had a means to displace the climate crisis. The hypocrisy of walking away from carbon pricing, even after Copenhagen, created new legitimisation issues for the Government. There are most certainly strategic errors made by the Labor Party that caused Australia's first ETS legislation to fail in parliament which many practitioners and analysts consider a lost opportunity. However, beyond the immediate political intrigue of the Rudd government's CPRS, the failure to legislate the ETS signals a more fundamental set of problems associated with producing a legitimate, fair and effective price on carbon.

In addition to these general issues, the political limitations of marketised climate governance were revealed as the CPRS rose and fell between 2008 and 2010. Overall, the failure of governance behind the CPRS debate was both substantive and socio-political. A substantive governance failure can be identified in that the CPRS was not designed in a manner that would have achieved the government's and its advisors' goal of instituting a least cost, equitable climate mitigation reform. The Federal Department of Climate Change responded positively to energy-intensive industry's push for extensive compensation, which would have jeopardised the scheme's efficacy. The failure of the CPRS was also socio-political because the ALP government was unable to legitimate the scheme within a divided civil society.

The following discussion of contestation over the CPRS illustrates that the failure to legitimate the CPRS was in part because of very public divisions between experts engaged in the policy debate, as well as strategic choices of, and divisions within, the green political Left at the time. The first section of this chapter sketches the key political developments between 2007 and 2010. The second section looks at the diversity of actors in the political contest over the CPRS. It illustrates significant disagreements among experts engaged in the debate, industry mobilisation over the CPRS and its impact on shaping the design of the ETS. The concluding section argues that the failure to install the CPRS in 2009 signals that a broader crisis of legitimacy for the state was in the making.

Australian carbon pricing politics 2007-2010

Between the end of 2007 and beginning of 2010 a national ETS was devised, debated and then shelved. In this period, public support for climate policy was at its highest (see figure 5.2). Both major parties supported the notion of pricing carbon with an ETS, and the leadership of the new Labor government had made much of its commitments in this arena of public policy. However, the CPRS legislation was shelved in early 2010. The reasons for this are multiple. This section focuses on the history of policy development, and strategic decisions taken by the Rudd government (see also Bailey et al., 2012).

Public opinion shift and the politicisation of fossil fuels

There was an upswell of public concern about climate change in the mid-2000s. Internationally, Cyclone Nargis, Hurricane Katrina and drought-related food crises in the Horn of Africa were on people's minds. Policy initiatives were starting up in North America, and New Zealand, and most notably the European ETS was beginning. Popular books about climate change were released in the mid-2000s by politically-engaged scientists and environmental authors concerned about the closing window for emissions reduction (Lynas, 2007; Monbiot, 2006).

The increased political energy and public engagement was framed by the momentous Fourth Assessment Report of the IPCC and by the wider imperative to develop a climate agreement to supersede the Kyoto Protocol of the UNFCCC, which needed multilateral revival before its final day in 2012. Meanwhile, Nicholas Stern's (2007) report in the UK provided an economic blueprint for managing the climate problem that travelled across the world, particularly to other nations considering climate policy in the North. Together these international developments created the conditions for Rudd's populist political platform on climate change.

Australian environmental politics took a similar turn visible in other European and North American societies. By 2006 Australia had been in a serious drought for five years. Popular books (Flannery, 2006; Lowe, 2005; Spratt & Sutton, 2008) and numerous scientific reports about the risks of climate change to Australia were released (Hennessy et al., 2005; Pittock, 2003, 2006). The mid-2000s saw climate change emerge for the first time as a national political issue.

Opinion polling showed that 68 per cent of respondents in a national survey on foreign policy rated 'global warming' as a 'serious and pressing problem' that warranted immediate action, with only 7 per cent of respondents reporting they believed action should be delayed (Cook, 2006: 10). As public concern grew, the former Liberal Party Prime Minister John Howard began recognising climate-related risks (Darby, 2006), and announced plans for an ETS (Frew, 2006). However, in the end the LNP's longstanding allegiance to the energy sector remained.

The inadequacy of the Howard government's history of greenhouse policy was increasingly a subject of public discontent in the mid-2000s. Political attention became focused on regulatory capture of environmental and resource policy by the fossil fuel lobby (ABC, 2006; G. Pearse, 2007). A former Liberal Party speech writer and PhD student Guy Pearse released the findings of his research interviews from 2000-01 that detailed the political strategies and extensive access to the Federal government enjoyed by energy industry representatives, and overlapping career paths of lobbyists and government staff writing greenhouse policy.

In the lead up to the 2007 election, ENGOs and a new layer of climate change volunteers campaigned for change (see chapter 7). After the ALP's election, a new 'climate action movement' formed and articulated an uncompromising view that deep cuts of national emissions must be undertaken (Rosewarne et al., 2014). Whilst environmentalists were marginal in the national debate over the CPRS, they did play a role in supporting the Green's opposition to the CPRS and in putting energy and mining issues on the political agenda (see chapter 8).

Climate change election 2007: The rise of Kevin Rudd

As opposition leader, Rudd convened the Labor National Climate Change Summit in April 2007. He famously declared climate change to be the ‘great challenge of our generation’ and further stated ‘climate change is a great environmental challenge, a great economic challenge, it's a social challenge’ (Rudd, 2007). In the same month Rudd and the State and Territory Governments commissioned Ross Garnaut to conduct a *Climate Change Review*. The review was to analyse the impact of climate change on the economy to be released in 2008. It would be Australia’s answer to the UK Stern Review (Kelly, 2007b).

In 2007, Rudd had joined the chorus of political figures and celebrities championing the need to act on climate change. He was elected at least in part on the basis of his more credible willingness to act on climate change (Pietsch & McAllister, 2010; Rootes, 2008). Industrial relations was a defining election issue during the 2007 campaign. But, the Howard government’s history of recalcitrance on climate change was part of the Coalition’s election loss. At that brief point in time, there was a bipartisan consensus for an ETS.

Rudd was immensely popular in the lead up to and during his first two years in office. No leader before him had enjoyed such high approval ratings and for so long (Newspoll, undated-a). The 26th Prime Minister of Australia was a Mandarin-speaking former diplomat, Anglican, and millionaire from rural Queensland. He was not a factional leader within the Labor party. Party members and commentators have argued that Rudd rose to power within the party because of his public profile and success in opinion polling (Marr, 2010: 5-6). He did not align with a factional group in the ALP, or have close ties with the union movement. Rudd’s leadership is symptomatic of decades of change within the Australian Labor party. Party membership has plummeted, the union movement has professionalised, factions have ossified, and the political meaning of policy agendas and ideological rationales have been lost (Cavalier, 2013; Tietze, 2012).

Much has been made of Rudd’s successful engagement with the public and media management. ‘Kevin07’ was the theme of a presidential-style campaign (ALP, 2007) that stood out for its use of online media to ‘brand’ Labor and Rudd as more connected to young voters in ‘Generation Y’ than their opponents (*The Age*, 2007; Ward, 2008). During the campaign Rudd engaged strategically with the Australian celebrity industry, appearing on prime time morning television regularly and cultivating a social media presence. He was ‘making a direct appeal to the Australian people, creating a persona seen as ordinary, trustworthy and familiar to the point of intimacy’ (Wilson, 2011: 96).

Rudd also figured himself as a public intellectual and international statesman (see chapter 7). During his political leadership, he wrote three essays in centre-left magazine *The Monthly* on the role of faith in politics, neoliberalism and the financial crisis. Rudd’s initial agenda was to position himself against Howard, whom he characterised as zealously neoliberal. In his 2006 essay on ‘Howard’s Brutopia’, Rudd argued that there was a tension between the Coalition’s market fundamentalism and the party’s social values. He claimed Howard had ‘no analysis of how traditional social values of family, community and country are compatible with the ruthless economic utilitarianism of a market in which rampant individualism is dominant’ (Rudd, 2006b).

Between 2007 and 2010 the financial crisis and climate change were defining areas of political debate and action. Rudd presented his party's position as a departure from blind neoliberal faith in markets. Justifying the ALP's substantial stimulus packages, he insisted 'the role of the state has once more been recognised as fundamental' (Rudd, 2009). On a range of issues, Rudd argued that in contrast to conservatives the ALP stands 'for open markets while having a clear-cut recognition of when markets fail' (Rudd, 2008c).

Rudd and the ALP presented themselves as willing to act on market failures such as climate change, and contribute productively to multilateralism in the UNFCCC. His political ideology was plural, and at times unclear to political and opinion writers. Before the 2007 election Rudd claimed to be an 'economic conservative', at another point he identified himself as a 'Christian socialist', and claimed he operated from the 'reforming centre'. He argued that 'Right and Left thinking is often an ideological straitjacket' (Rudd, 2008a). He is perhaps best understood as a 'straightforward social democrat' accepting the broad tenets of capitalism as long as they are regulated to meet social values and needs (MacCallum, 2010: 3) and seeking politics 'beyond neoliberalism' (Manne, 2008).

There were indications that Rudd was committed to a broad debate about the role of markets in society. In a speech at a conference held by free market think tank the Institute for Public Affairs (IPA) in August 2008, Rudd argued that 'the most productive intellectual and policy debates today often lie at the intersection between market failures and market mechanisms' (Rudd, 2008a). However, on climate policy Rudd rehearsed the case for market mechanisms without any irony. He was supportive of the view that 'a market mechanism - emissions trading - is the best way to find the lowest cost and most efficient route to cutting carbon emissions (Rudd, 2008a). Rudd's simultaneously open, but closed view of climate policy reflected the nature of debate over carbon pricing that played out.¹⁹

Derailed negotiations at home and abroad

Negotiations over the CPRS in the Australian parliament were drawn out and eventually polarised. The ALP did not move swiftly to design and legislate a carbon price. Instead, the expert review and parallel departmental process of designing the ETS took up all of the Rudd government's first year in office. Industry mobilised and secured considerable concessions and exemptions and the global financial crisis took hold in late 2008, drawing the government's focus away. The CPRS was first tabled in parliament in May 2009, and was voted down twice in the Senate (in August and December that year).²⁰

¹⁹ An ETS was the flagship climate policy, and focal point of Rudd's climate policy agenda. The national ETS was accompanied by an increase to the existing Renewable Energy Target (RET), and allocation of \$3.5 billion in public finance for 'clean coal' technology development. Negotiations over the RET were fraught, but in the end resolved with bipartisan support.

²⁰ The ALP had a majority in the House of Representatives, but it relied on support from its opponents to get the CPRS legislation through. In the Federal Senate Labor held 32 seats. The Government needed the support of either the LNP who held 37 seats, or a combination of the Greens who held 5, and 2 independents. Over 2009 no agreement was reached.

Public confusion and dissatisfaction with the Government over climate policy began to ferment over time.

Journalists and commentators have since observed that the CPRS failed in part due to the general pathologies of the Rudd government. Government operations and party strategy under Rudd became radically centralised and chaotic over time. Journalists have detailed the flaws of the Rudd government's processes and political strategy in long essays and books (Chubb, 2014; Kelly, 2014; MacCallum, 2010; Marr, 2010). Public servants observed that Rudd 'lacked depth and variety' in the advice he received, he did not communicate well with senior bureaucrats, and disrupted patterns of leadership and power (Chubb, 2014). Rudd chose staff who were young and relatively inexperienced, which created a level of animosity with other colleagues. There is also evidence that suggests relationships with the unions were difficult.

Rudd disbanded the Climate Change subcommittee early in the policy process in 2008. Decisions on climate were made outside of Cabinet, between Rudd, Treasurer Wayne Swan and Climate Change Minister Penny Wong. They were known as 'the troika'. In another iteration the government's GFC committee was made up of Rudd, Swan, Deputy Prime Minister Julia Gillard and Lindsay Tanner. This small circle were known as the 'Gang of Four' (Chubb, 2014: 18). These internal party issues hamstrung the political process, however a broader set of global and domestic political dynamics were also in play.

The two failed attempts to legislate the CPRS mirrored the international experience. In December 2009 Rudd travelled to the much anticipated Copenhagen UNFCCC conference, where a replacement treaty for the Kyoto Protocol was being discussed. The negotiations fragmented and a breakout group of heavyweight nations (in which Australia was not included) created a non-binding document promising additional climate finance, a pledge-and-review process for national reduction targets, and a further development of market-based policy and technologies. Negotiations broke down. The Copenhagen Accord was bitterly opposed by the majority of national delegates in the plenary, on the basis that it undermined multilateralism. The UNFCCC Conference of the Parties 15 'took note' of the Accord only. Rudd's political ambition to be an international statesman and deal broker was undermined at this point in time, and reportedly led to further fractures in government operations (Kelly, 2014: 272-275).

In retrospect, the years 2008-09 appear to have been the peak of political energy for climate action within both international and Australian climate politics. The opposition LNP underwent its own internal debate, more directly focused on carbon pricing. There was a major split within the party, and dispute over whether to support the CPRS. Then party leader Malcolm Turnbull had argued for negotiating agreement with the Labor party on a carbon trading scheme. Over that year a faction within the LNP understood as 'climate sceptics' were effective dissenting voices against the idea of supporting an ETS (ABC, 2009b). The dispute came to a head in December with two leadership spill votes. The challenging candidate Tony Abbott won on a slim margin in the second vote on 1 December 2009.

There was also a strong ideological component to this opposition. LNP members argued that the carbon tax was socialism (Boswell, 2011; Robb, 2011; Thompson, 2011). The move was led by senior party members known to be sceptical of climate change science

and government intervention (ABC, 2009b; Grattan, 2009). There was division on the CPRS between National Party representatives led by then Senator Joyce and their urban counterparts in the Liberal Party (ABC, 2009c). However, equally forceful in the debate were Liberal Party representatives Minchin, Bernardi, and Abbott. The resistance to the CPRS was not a simple division along ‘old’ and ‘new’ generational lines. Within those who opposed the CPRS, there were politicians who ‘believed in climate change’ and other who did not (Berg, 2009b; Wilson, 2014).

After the events of 2009, inertia within the state and in civil society began to set in. Entering 2010, Rudd and the ALP were embattled over another policy issue – a minerals resource rent tax - and faced a much more hostile opposition party under Abbott’s leadership. The ALP cabinet decided to shelve the CPRS in April 2010. Rudd’s reputation suffered badly. Rudd’s approval rating dropped to a low in May 2010 (AFR, 2010; Newspoll, undated-b). Right wing factional leaders in the ALP decided to replace Rudd with then Deputy Prime Minister Julia Gillard.

Rudd’s personality flaws, strategic errors, as well as a broader malaise within the organisational culture of the Labor party and movement, were folded into explanations of events surrounding Rudd’s removal in 2010 (Chubb, 2014; Kelly, 2014; MacCallum, 2010; Marr, 2010). Many commentators have observed that the ALP did not negotiate with the parties it needed votes from in the Senate. The Greens were reportedly ignored, and the ALP often used the CPRS as a means to create a wedge between different factions in the LNP. The former Prime Minister was known as a ‘bottle-neck’ because he sought to micro-manage both major and minor decisions of the government and Party. The loveable nerd persona (*The Telegraph*, 2007) was transformed into a less likeable controlling technocrat in the eyes of the press (Trinca, 2010).

One of the most important turn of events in this period was that the ALP went to an election that year without the CPRS or a firm commitment to an ETS. Instead, the new Labor leader Julia Gillard claimed that more consensus building was needed on the issue of climate policy. The ‘Citizen’s Assembly’ she proposed was to investigate the evidence for climate change and inquire into merits of market-based climate policy (see chapter 5). The next section looks further into the political disagreements over carbon pricing leading up to this point.

Dissensus over the CPRS

Looking further into the beginnings of dissensus over carbon pricing, we can see that the state did not enjoy unified political support from experts, industry, or civil society members. Rather, the deliberations associated with the Garnaut process, the Green and White Papers, and Parliamentary committees show that there was significant disagreement amongst ‘stakeholders’. Much of this disagreement reflects differing political orientations and allegiances, as well as different views on the possibilities and risks associated with the state acting at that moment. Below I outline the emergent lines of disagreement over carbon pricing during the Rudd government.

Disagreement over the details: Garnaut and his critics

The debate over carbon pricing has involved conflict over policy types and carbon price design. Underneath contention over technical details, however, were differing political

outlooks and allegiances amongst expert economists, NGOs and political parties. Here I emphasise the disagreement amongst experts on issues of carbon price design.

There is an established circle of experts and ‘policy entrepreneurs’ that are networked into the Federal government’s climate policy deliberations. Most economists working in the field either work from within a university, consultancy firm, or independent think tank. In the career histories of these actors, it is common for individuals to have experience within government, the private sector, and/or civil society at different points. Importantly, these actors are diverse in their substantive views on particular climate policies and their political allegiances.

Expert climate policy networks can involve relatively close collaboration with governments. For instance, legal expert Martijn Wilder had a long history of involvement in international and national climate policy development. In the late 1990s, when the Kyoto Protocol had just been drawn up, Wilder was engaged in advising governments developing emissions trading policy and law. He described the early stage as a process of ‘putting flesh on the bones’ of the Kyoto architecture (Wilder, 2013).

In contrast to this kind of substantive contribution to ETS design, experts in think tanks operate at more of a distance from the state. Matt Grudnoff, from centre-Left think tank the Australia Institute (TAI) described his organisation’s work as influencing government through the public realm.

We much prefer to highlight an issue, talk about a solution and then try and sell that to the public and, in effect, sell it to the Government that way. (Grudnoff, 2013)

The Grattan Institute is another think tank engaged in the carbon pricing debate, which engaged critically on how the CPRS was designed from late 2009. John Daley from the Grattan Institute described their work as providing ‘hard analysis’, distinct from scientific or moral campaigning.

We don't have any of the qualifications to worry about the science, we are not in the business of making hardcore value judgements .. we're never going to win that fight, but what we can do is provide hard analysis. (Daley, 2013)

For Daley, the climate issue is a ‘classic political economy problem’ with a small number of people with a very large vested interest and a large number of people with individually small interests who get ignored (Daley, 2013). Echoing other economists discussed in chapter 1, Daley cited Buchannan’s (1984) public choice theory as an explanation for the industry compensation.

Academic economist Warwick McKibbin spoke in staid terms about the nature of economic advice and the role of economists that evoked the notion of a policy entrepreneur. McKibbin argued the economist’s role is to convey ways to manage costs and risks.

.. our role is to work out how to get the most environmental benefit for the least economic cost. Now, we have to worry about the distributional impacts but really the core of what we should do is pick a system which enables you to manage the risk at least cost, and with minimising the potential environmental damage. So it’s about trade-offs. (McKibbin, 2013)

McKibbin argues that an economic view of public policy sits between ideological poles.

The left wing view is that there's no such thing as a trade-off, they will spend infinite to save one more squirrel, and on the right wing view it's not about trade-offs because the environment doesn't matter.. it's all about economic growth. (McKibbin, 2013)

Without an eye to the political trade-offs, McKibbin argued that governments produce bad policy 'because the majority of people aren't in support of either of those two extremes' (McKibbin, 2013). McKibbin was advisor to the Howard government taskforce on emissions trading in 2007, and engaged in policy discussions over the Garnaut Review. With his colleague he developed an alternate model for carbon trading combining elements of a carbon tax with a cap-and-trade scheme (McKibbin & Wilcoxon, 2002). It will be shown below that disagreements about topics such as this (i.e. economic models, ETS design) were key features of political contestation during and after the Garnaut Review. Carving out a path between the ideological poles McKibbin observes was not possible.

The Garnaut Review became a Federal governmental initiative after the Rudd government was elected, and a year-long process of designing the ETS took up the better part of 2008. Garnaut was a safe choice, with a history of participation in market reforms in the 1980-90s, and one of Australia's leading neoclassical economists (Beeson & Stone, 2013). He was a Senior Economic Advisor to former Prime Minister Hawke, a previous ambassador to China, and a gold mining executive.

In September a final report was released, followed by a Green Paper and White Paper written by the Federal government. The Garnaut Review was a large intellectual project that delivered the 'techno-market' imaginary in the form of a broad set of policy recommendations. The review was premised on the ecological modernist promise of 'a path to Australia being a low-emissions economy by the middle of the 21st century, consistently with continuing strong growth in material living standards' (Garnaut, 2008a: xvii). Like Stern, Garnaut framed the public policy question as being about costs and benefits of action. A team of experts within the bureaucracy, from universities and the private sector produced more than twenty reports (case studies, technical papers and discussion papers) before releasing the full 600 odd page report in September 2008.

The Garnaut Review found that without mitigation action, climate change would be 'severe and costly'. For instance, the report estimated that by 2100 the gross value of Australian agriculture would be reduced by 20%, mining by 13%, and real wages by 12% below what they would be in a future without climate change. Garnaut's recommendations for action were conservative however. For instance, Garnaut observed that a stabilisation target of 450ppm was unlikely at the COP15 in Copenhagen 2009. A 'more realistic' target would be 550ppm. There was a striking gap between the Review's account of climate science and its proposed emissions reduction targets (Christoff, 2010). And eventually the Rudd Government's targets were shown to be even less ambitious, when a target of 5% below 2000 levels by 2020 was finally announced. The Rudd government evaded the question of what Australia's national 2020 emissions target would be throughout the 2007 election campaign, all the way until December 2008.

The Garnaut Review proposed an ETS with full permit auctioning, strictly limiting offsets, no undue assistance to energy-intensive trade-exposed sectors, and measures to minimise carbon price impacts on low income groups. It also recommended a range of other measures: climate research and training, new investment institutions and international funding for low-emissions technologies and adaptation in developing countries, emergency management, biodiversity conservation, structural adjustment programs for the La Trobe Valley, expanding public transport, investing in CCS, and upgrading energy infrastructure.

Within this wide-ranging policy set, carbon pricing was given a central place in the report. The use of market instruments was black-boxed in the Garnaut Review. Neoclassical economic theory shapes the review's determinations and in-principle preference for market measures. Garnaut was adamant that market-based regulation is the most efficient means to reduce emissions. No empirical analysis was used to establish this point (Spies-Butcher, 2010). In a section of the final report call 'Pandering to pet solutions' Garnaut dismisses any argument that 'regulatory', non-market based interventions are needed.

Detractors of market-based mechanisms often argue that additional emissions reduction measures (be they regulatory or programmatic) are required in order to reduce greenhouse gas emissions. They are wrong. (Garnaut, 2008a: 317)

The report embellishes differences between 'regulatory' and market-based policy (Spies-Butcher, 2010). Garnaut (2008a: 318) concludes that other policies 'have no useful role in reducing emissions once the emissions trading scheme is in place'. However, this strongly held position on market-based policy stands in contradiction with other parts of the report naming a range of other interventions to address market failures: Garnaut commits what Driesen identified as an ideological bias common to economic scholarship where political distinctions between 'command and control' versus 'economic incentive' are made without a theory of incentives (Driesen, 1998, 2014a) (see chapter 1).

The political assumption of the Garnaut report was that a well-designed ETS will deliver just outcomes. On the equity issues raised by carbon pricing the report offers no constructive policy recommendations (Spies-Butcher, 2010). Garnaut argued that equity is a long term policy problem mainly reliant on the maintenance of 'economic growth and full employment within a flexible economy' (Garnaut, 2008a: 385). However, Garnaut was clearly aware of the risks that an ETS with unjust distributive outcomes could repeat political problems seen in the EU, where:

.. transfer from ordinary households to the big energy companies poisoned politically the scheme. People began to be resistant to the idea of a rising carbon price because it simply led to a transfer from ordinary households to the energy sector. (Garnaut, 2008b)

This was a prescient reflection in 2008 given that the CPRS design entailed over-generous grandfathering arrangements (see chapter 3) and a major contest over the regressive impacts of carbon pricing on household costs would take shape in the near future (see chapter 8).

Debate over carbon pricing dealt with distributive issues like this, albeit with a different, national focus. The crux of conservative opposition to carbon pricing was that even if climate science is correct, the lack of agreement on action internationally means that Australia should not place limits that penalise consumers and producers. A small, but vocal set of economists debated everything from whether the price was designed correctly and alternative pricing models, to whether or not the CPRS should go ahead at all. The head of the Department of Climate Change (DCC) Martin Parkinson reflected that there is only consensus for a carbon price in the abstract; beyond that, economists disagree on numerous counts (Parkinson, 2010). The contest over carbon pricing as a policy instrument was visible in the forms of occasional opinions pieces, circulating reports and counter-reports, and exchanges in parliamentary committees.

Private sector economists aligned with the political Right argued for alternate models of carbon pricing. The Centre of International Economics (CIE) produced a critique of the CPRS, emphasising that industry compensation was not sufficient (Pearce, 2009). Danny Price from Frontier Economics, who was commissioned by the LNP and an independent Senator to review the CPRS, proposed an alternative. He wrote a report describing a baseline-and-credit scheme measured in terms of emissions intensity per unit of production (Frontier Economics, 2009). These policy interventions were the basis of the LNP position on the CPRS amendments throughout 2009 (Arup, 2009; Taylor, 2009e). In parallel, private sector economist Geoff Carmody argued for consumption-based carbon pricing (Carmody, 2008; Martin, 2008).

Both conservative and centre-left economists called for further consideration of carbon taxes during the CPRS debate. The free market²¹ think tank Centre for Independent Studies (CIS) (Humphreys, 2009; Humphreys & Malpass, 2009) argued that a carbon tax was the 'least worst option'.

An ETS raises a number of concerns, such as lack of flexibility for business, the corporate welfare implicit in giving away permits, the difficulty in removing or reforming the scheme when change is needed, significant compliance and administration costs, lack of transparency, continued rent-seeking and lobbying behaviour, and market manipulation. These costs would likely outweigh any potential environmental benefits. (Humphreys & Malpass, 2009: 1)

Richard Denniss (2009b) from TAI was highly critical of the CPRS, and argued for a flat carbon levy (an effective tax) as an interim measure before switching to a future, better designed ETS.

The CPRS is complex, expensive and ineffective. The government's strategy is to suggest to voters that they are taking significant action on climate change while simultaneously allowing them to assure industry that they aren't really doing anything. It may or not turn out to be a well-designed political tool, but as a policy tool it is an enormous distraction. (Denniss in Milne, 2009b)

²¹ I use the term 'free market' here because that is the term CIS intellectual John Humphreys uses to describe CIS.

Denniss criticised the CPRS for putting a ceiling on ambition with a low target, and not allowing voluntary ‘moral’ action to be additional to reductions achieved by compliance (Denniss, 2008). This was an influential intervention, and inspired hundreds of submissions to the DCC objecting to the neglect of voluntary action (Federal Senate, 2009: 89). The objection influenced the Greens and environmentalists who opposed the CPRS at the time. TAI also released analysis of the Treasury CPRS modelling, demonstrating it would do nothing to reduce emissions from coal fired power, and that the only policy having an impact on energy emissions was the RET (Denniss, 2009a).

The Grattan Institute released a report on EITE assistance just before the CPRS was shelved in 2010. The report argued that most of the compensation to industry was unnecessary (Daley & Edis, 2010b). The report was an intervention waged out of concern for public interest. Grattan Institute CEO John Daley observed:

.. the more we dug, the more it became apparent that the policy was incoherent. The amount of money being handed over was very, very substantial. The policy justification for it was non-existent (Daley, 2013)

These views confirm that economists engage in policy debate, motivating by an objection to ‘policy incoherence’ (see chapter 1).

A more in-principle dissent to the CPRS came from economist Clive Spash who was working for the CSIRO at the time. In 2009, Spash (2010) wrote a critical essay highlighting flaws in carbon trading in theory and practice. The Federal Minister and CSIRO management made attempts to stop the journal *New Political Economy* from publishing the paper (Spash, 2014). When asked about why the government had responded in the way that it did, Spash said he was told his writing on the topic was ‘politically sensitive’, presumably because the CPRS had not been passed in the Senate and had become widely critiqued. Spash went public about the matter, saying the political trouble stemmed from the nature of his argument:

.. I'm arguing in general terms about emissions trading schemes and their problems which cannot be redesigned. Most economists are arguing that you can redesign emissions trading schemes. (Spash in Colvin, 2010)

Spash’s observation is correct. The lack of consensus over the CPRS concerned policy details, and was largely limited to opinions about how best to design various forms of carbon pricing schemes.

Having said that, within Parliament there were brief moves to reconsider the CPRS that constructed the choice of an ETS as a point of debate. In February 2009 the ALP announced a House of Representatives Committee inquiring into ‘the choice of emissions trading as the central policy to reduce Australia’s carbon pollution’. This decision appeared to reflect division within Federal Cabinet over whether to follow through with the CPRS (Taylor, 2009f). However, the Senate Committee was cancelled immediately after critics contended it was a sign Labor was making plans to abandon the CPRS. Instead, a review of the choice of emission trading was folded into a Senate inquiry led by the Greens and LNP, who were both critical of the CPRS (ABC, 2009a).

The process of Senate review did not, on the whole, put emissions trading into question. The discussion about market mechanisms in the Senate Committee on Climate Policy concluded that different options for design of an ETS needed to be transparent in order to ensure public confidence (Federal Senate, 2009). Few dissenting views on market mechanisms were shared, save Greenpeace and FOE, who expressed concerns about offsets (Hepburn, 2009; Lawson, 2009; Winn, 2009). Greenpeace told the Senate Committee that the urgency of climate change warranted direct regulatory responses. They argued for a national feed-in tariff for renewable energy as an alternative central policy mechanism.

The climate policy think tank TCI had a different view - that emissions trading needed to be the first action, before then moving on to efficiency measures.

Without an ETS we will need a bucket load of regulations to get to targets that are going to help us. (Connor, 2009)

The majority of NGOs engaged in the climate policy process also holds the view taken by TCI. These organisations operate on the basis that emissions trading is an efficient mechanism, and an important first political step toward further emissions reduction reform (Connor, 2014; *SMH*, 2007). Overall, the ‘climate movement’ had mixed views on climate policy, and debate between them at the time was less about policy design, and more about different readings of the political landscape (see chapter 7).

In the course of the Senate Committee discussion, views that were shared about the status of carbon trading reflected different ideas about the political dynamics of regulation. And the advice of economists to different parts of the Australian government in this period was often expressions of economist’ views about what kind of pricing mechanism can be legitimated with the least political resistance. For instance, in his presentation to the Senate Committee on Climate Policy stated in 2009, economist John Pezzey emphasised the political utility of an ETS over carbon taxation.

I do favour an emissions trading scheme as the main means, not an emissions tax. This is because I contend that an effective ETS is politically more acceptable than an effective tax, not because it is theoretically better. (Pezzey, 2009)

Academic economist and Climate Change Authority board member John Quiggin had a broader political reading of the trading versus taxation debate. He argued that, politically, the differences in policy design mattered less than getting a policy in place.

.. among all the variants that were proposed during the Rudd-Gillard governments, I would have supported any of them rather than nothing. Presumably one was most likely to succeed politically. I backed carbon taxes and emissions trading depending on which I thought was most likely to be implemented. So my view is the differences are relatively unimportant. (Quiggin, 2014b)

Quiggin’s submission to the 2009 Senate Committee argued that the two types of climate policy offer a choice: with trading you have price uncertainty, and with taxation you have quantity uncertainty (Federal Senate, 2009: 48). He went on to say that political acceptance of an ETS via grandfathering is a relatively minor point. Cash compensation could be paid out of carbon tax revenue, and therefore operate in the same way politically (Federal Senate, 2009: 48). The major criticism of the CPRS at the

time according to Quiggin and other economists was the free permits and possibility for voluntary action (Rose, 2009).

Overall, the differences amongst experts and NGO representatives reflected divergent political dispositions and allegiances. The debate among economists of various stripes illustrates that the consensus for carbon pricing is thin, and there are multiple views about what can be achieved through pricing mechanisms, including a tendency to offer opinions about the political function of different types of carbon price design. Beyond a general preference for marketised policy, there is no consensus, and certainly, there are no positions on the debate that are beyond, or 'post' politics.

Industry mobilisation and the politics of protection

The push back from industry was a defense against those elements of the ETS that would place an immediate or potential future limit on emissions intensive production. Industries fought for exemptions, compensation, and access to offsets. Energy, mining and manufacturing lobbyists set out to establish that the CPRS threatened the operations of major generators, mines, steelworks and aluminium smelters. And by extension, they argued the national economy was under threat. A highly effective rent-seeking campaign delivered a doubling of industry compensation to the most energy-intensive firms. Increases in compensation awarded are a key indicator of the impact of industry strategy (see figure 4.1).

It is important to note that in this period few industry groups and firms publicly expressed outright opposition to the CPRS, at least not until the end of 2009. This reflected the global trend of more moderate business responses to climate policy once it became clear emissions regulation was inevitable, and that the market mechanisms associated with the Kyoto Protocol 'would not threaten core markets and might even offer new opportunities' (Levy & Spicer, 2013: 669). This does not mean, however, the CPRS was welcomed. The most common claim made by industry was that the CPRS design and compensation arrangements were insufficient to shield industry, and that Australia risked competitive disadvantage if the CPRS was too stringent. This was an appeal to the free rider argument about international action (Pezzey et al., 2010).

Overall, industry reiterated its preferences for emissions trading over taxation or traditional regulation. For instance, the AIGN and Santos recognised emissions trading as a least cost approach, preferable to carbon taxation. The National Farmers Federation (NFF) stated they opposed regulatory measures, based on their experience of laws prohibiting land clearing (NFF, 2009).

The response from industry groups was not uniform with regard to the terms of their support for the CPRS. Those associations with mixed sectoral composition took a largely conciliatory approach to negotiating details of the CPRS. The Australian Industry Group (Ai Group) supported a cap-and-trade scheme but with design that maximised flexibility through offsets and carbon leakage. The Ai Group emphasised the risks of unilateral action, and encouraged the delay of the CPRS to 2012. Rhetorically, they emphasised the difficulties of economic transition, and claimed a realist outlook.

.. some people think that we will get in the Tardis booth in 2010 and get out in 2020 and everything will be hunky-dory in the state of Denmark. It is not like that; people do not

transition that easily. Businesses do not transition that easily.. it will not happen without costs. (Ridout, 2009: 33)

Like the Ai Group, the Business Council of Australia (BCA) supported the CPRS throughout 2009 and implored both sides of politics to ‘get the economics right’ (Gailey, 2009). The Ai Group and BCA were ‘non-participants’ in the more rebellious campaigning of mining, energy, and manufacturing industries (Hewett, 2009).

The coal industry pushed hard against the original CPRS design, which included compliance obligations for coal mining operations emitting methane - so-called ‘gassy coal mines’. After the Green Paper was released, the industry was pushing for exemption, or compensation at the rate of 60 per cent free permit allocation (Hillman, 2009: 181). The ACA consistently reminded the government of the importance of coal to the domestic electricity production and energy export market.

Coal .. underpins the security, reliability and comparatively low cost of Australia’s electricity supply. In turn, this supports the competitiveness of Australian industry and provides affordable power for Australian households. (Beasley, 2009: 140)

The economic imaginary of ‘fossil fuels forever’ is articulated through claims about energy security and household costs. It also asserts itself through its own form of catastrophism, that is, forecasted futures of economic loss. ACA Executive Director Ralph Hillman reported to the Federal Senate ‘We are forecasting mine closures, shortened mine lives and job losses’ (Hillman, 2009: 183). Rio Tinto spelt this out as a threat to regional Australia:

By our analysis, the [CPRS] before 2020 risks the following: closure of coalmines; halting expansion of value-adding alumina refining; putting aluminium smelters into survival mode; and stopping the demonstration of emerging industrial scale low emissions technologies. Most of these impacts will be felt in regional Australia. (Hodgson, 2009: 126)

The Australian Coal Association (ACA) launched an advertising campaign in September 2009 targeting regional Labor seats with heavy industry or mining operations (Maher, 2009). The ads ran on local television, radio and newspaper with the slogan ‘let’s cut emissions, not jobs’ (ACA, 2009). In November 2009, assistance to ‘gassy’ coal mines was doubled in value from \$740 million to \$1.5 billion, in the form of free permits and grant funding (Combet, 2009).

Job losses figured strongly in campaign of mining and emissions-intensives industries. The Minerals Councils of Australia (MCA) commissioned Concept Economics for two influential pieces of work. Former ABARE economist Brian Fisher’s review of the Treasury modelling of the CPRS found that assumptions about international action and the cost of transition in electricity and energy-intensive sectors were are highly optimistic (Fisher, 2009). The next report on the impacts of the carbon pricing argued that if the CPRS went ahead, then employment in the minerals industry (including smelting) would be 23,500 jobs less in 2020 (Fisher et al., 2009). Using these analyses, the MCA pushed for 100 per cent free permits and further phased auctioning, insisting that it did not undermine the environmental integrity of the scheme (Hooke, 2009).

The domestic electricity sector ran an early campaign for compensation. Lobbyists representing the electricity sector threatened power shortages. The National Generators Forum (NGF) wrote to all MPs painting a bleak picture of systemic failure (Wilkinson et al., 2009). A Director from International Power (GDF Suez), one of the largest brown coal power generators repeated these claims in representations to the Federal Senate:

We envisage a systemic failure of the electricity market as a result of damage to balance sheets and loss of creditworthiness; we see increased price volatility and increased short-term contracting, which will impact on all electricity customers; and the CPRS is exacerbating an already difficult capital raising environment.. (Concannon, 2009: 79)

The coal-fired electricity generators were among the most vocal industries seeking a different kind of deal over the CPRS. International Power, the British company that owns Hazelwood power station in Victoria, asked on a number of occasions to be bought out and closed down rather than compensation (Caldwell, 2009). CEO of the Energy Supply Association of Australia (ESAA) Clare Savage claimed that the future of the energy market would be jeopardised without further compensation. She argued that governments would have to step back into the largely privatised electricity sector (see chapter 6).

What is at stake here is the future of the energy market. If nothing is done, power stations are likely to be bankrupted, and if they closed, then there would be problems with electricity supply, or more likely governments would have to step in to take them over, and that would unravel the last 10 years' hard work to set up a national electricity market. (Savage cited in Taylor, 2009d)

The generators were seeking increased compensation from \$3.9 billion over 5 years to \$10 billion. In November 2009, the volume of free permits under the Electricity Sector Adjustment Scheme (ESAS) more than doubled in value, from \$3.3 to \$7.3 billion, and from 5 to 10 years in duration.

The agricultural lobby also influenced the design of the CPRS by successfully negotiating exemption from compliance obligations and voluntary participation through carbon offsetting. Farmers' representatives argued that agriculture is an internationally exposed sector that is unable to pass on the increased costs. They contended that firms in the supply chain like industrial processors would be covered by the CPRS, which could see increased costs passed back to farmers in the form of lower prices (Flittner, 2009: 20; Keogh, 2009). Similar industry resistance to inclusion of agricultural sector in the New Zealand ETS occurred, which produced delays on inclusion of this sector and ongoing uncertainty (Bullock, 2012; Cooper & Rosin, 2014). In Australia all agricultural groups opposed the potential inclusion of the sector in the CPRS from 2015. They were supported in this by the LNP, particularly the National Party. The Rudd government announced agriculture's exemption in November 2009 along with other major concessions to industry.

The NFF appealed to a different kind of carbon imaginary to the electricity, manufacturing and mining sectors. NFF President David Crombie argued that 'farmers are good carbon managers', appealing not only to the farmer as a green entrepreneurial subject, but also to the Australian state's use of LULUCF figures to balance the national carbon budget (see chapter 3).

The last 15 years we have reduced emissions [in the land sector], or potential emissions, by 40 per cent and it is basically those reductions that have allowed Australia to meet its Kyoto target. (Crombie cited in Wilson, 2009)

A vocal carbon offset professional agreed with the agricultural lobby on the alternate approach. CO2 Group CEO Andrew Grant reasoned that agriculture would be too difficult to regulate under the CPRS, large emitters are ‘the practical unit of regulation’.

This is the great conundrum about agriculture. There is no doubt that agriculture, as a sector, is a substantial emitter, but the practical reality of being able to regulate thousands and thousands of small farmers and bring them effectively into a scheme...is the reason it has not been included. (Grant, 2009: 91)

The CO2 Group is one of a few carbon offset firms visible in the public discussion in Australia. The bargain over agriculture would lead to the creation of a domestic land offset scheme called the Carbon Farming Initiative. The Wentworth Group of Concerned Scientists were also ‘very influential in the design of the Carbon Farming Initiative’ (Anonymous, 2013a). Chapter 6 discusses limitations of this land carbon policy approach. For now, what is most important to note is the intersections between agricultural industry interests with those of carbon market entrepreneurs and the state’s historical preference for land carbon sinks as a displacement strategy.

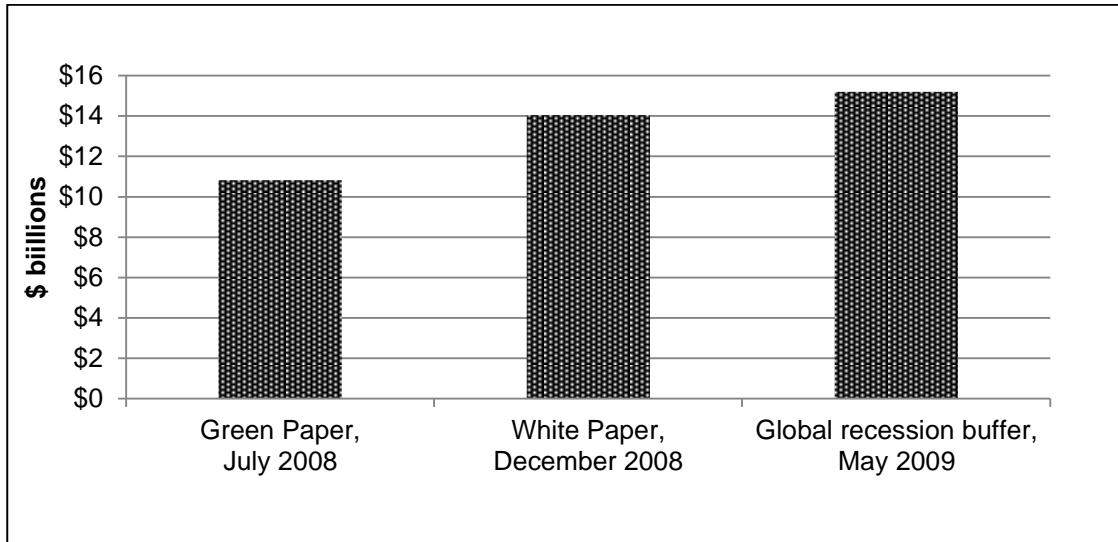
When considered in global context and with regard to the broader field of climate governance, the CPRS design is an example of a state privileging territorially defined energy interests as it undertakes to institutionalise new arms of the global carbon market. Limited sectoral coverage, generous compensation packages and access to offsets is common in other schemes (see Passey et al., 2012). International offsets provided a means to address industry calls for flexibility, and a domestic offset scheme in the Australian land sector was a means to address the resistance to compliance participation in the ETS from the agriculture and forestry sectors. These decisions in ETS design in turn have significant distributive and socio-ecological consequences (see chapter 6). The CPRS would have contributed to the transnational pattern of seeking out terrestrial carbon sinks to compensate for expanding energy capital.

The most striking distributive effects of industry mobilisation over the CPRS within the domestic economy was the public cost of expanded industry compensation. Over a 22 month period the CPRS became progressively weaker than the template provided by Garnaut, and therefore put even less burdens upon industry to change. Compensation to energy-intensive industries ballooned during 2009, particularly heavy industry, oil and gas (table 4.1). In December 2009, Treasury confirmed that CPRS would have a net fiscal cost of \$1.2 billion to 2012-2013, and a cumulative fiscal cost of around \$2.5 billion to 2019-20 (Treasury, 2009: 35-37). This indicated that the CPRS was a significant departure from the revenue neutral model Garnaut endorsed.

Table 4.1 Changes in net permit obligations for the six largest EITE industries

\$ Millions liabilities 2010-11 and 2011-12				
Industry sector	Green Paper²²	White Paper²³	Recession Buffer²⁴	Total change
Aluminium smelting	227	227	23	-204
Cement	38	38	4	-34
Steel	63	63	6	-57
Alumina refining	349	349	57	-292
LNG	525	252	41	-484
Petroleum refining	1020	412	67	-953
Total	2222	1341	198	-2024

Source: (Fryer & Barraclough, 2009: 5)²⁵

**Figure 4.1 Value of EITE free permits allocated in three versions of the CPRS**

Source: (Fryer & Barraclough, 2009; O'Connor & Pascoe, 2009: 3)

²² The Green Paper stated that between 60 per cent and 90 per cent of emissions permits would be allocated for free to EITE entities (DCC, 2008b: 49).

²³ The White Paper committed to a further \$750 million from the Climate Change Action Fund for 'gassy' coal mines (Treasury, 2008: 12-46). It also increased the volume of free permits available by 5 per cent by lowering the emissions intensity threshold designating EITE entities (Treasury, 2008: 12-50).

²⁴ In May 2009, the government announced a one year delay to the scheme start date, and a 'Recession Buffer' for industry (Wong, 2009). This increase compensation came in the form of 5-10 per cent increase in free permits to EITE entities. These concessions mainly benefited aluminium smelting and refining, cement, steel, LNG and petroleum refining industries.

²⁵ Riskmetrics calculated net permit obligations as the value of permits that must be acquired by industry after subtracting permits received for free through EITE assistance. Calculations use a permit price cited in the 2008 White Paper: \$25/tCO₂-e in 2011-12 and \$26.43/tCO₂-e in 2011-12.

The conservative opposition in parliament supported the industry campaign for these exemptions and additional compensation. Then opposition leader of the LNP Malcolm Turnbull claimed these amendments as a victory (Turnbull, 2009a). The LNP had argued against a scheme that was out of step with the proposed US carbon trading scheme (which also failed to pass that year).²⁶ In August 2009 the LNP proposed an alternative baseline-and-credit model (Frontier Economics, 2009).

It is important to note that the LNP resistance to the CPRS did not have majority industry backing on its policy position. The BCA did not support a shift to the new model on the basis that it did not solve their concerns about compensation (Taylor, 2009a) and the Ai Group were unhappy with the LNP's alternative model because by excluding electricity there was risk of the nation exceeding its targets and the government having to purchase international carbon offsets to meet its obligations (Taylor, 2009b). These points of difference between the LNP and some industry groups indicate that the new Liberal Party leader Tony Abbott's outright dismissal of emissions trading was a significant departure from industry strategy on climate policy. From the end of 2009, the leadership of organised public resistance to carbon pricing was headquartered in the LNP and conservative civil society, not in industry.

Split in the environment movement

Environmentalists were on the fringes of the CPRS debate, but their activities and strategic choices in this period were significant. By 2009 a newly formed 'climate movement' was divided over the CPRS. The Greens, mid-sized ENGOs and most of the emergent grassroots 'climate action groups' opposed the CPRS. A coalition of larger ENGOs and unions, however, argued for the CPRS, and formed the Southern Cross Climate Coalition (SCCC). Where possible, SCCC members took the 'inside track' available to them because of a longer history of connections with the ALP.

For those that opposed the CPRS, the national emissions target was a focal point of discontent. The 5-15% emissions reduction target was announced after a year of deference to the expert Garnaut Review by Labour. This figure contradicted even the inadequate 450ppm global goal the government purported to be aligned with (Christoff, 2010). The Greens argued that the CPRS was 'worse than doing nothing' (Milne, 2009a). It was strongly felt that the CPRS 'was locking in failure' (Brown, 2009; Spratt, 2013), and the mid-sized ENGOs and Climate Action Groups agreed (GetUp! et al., 2010). Environment Victoria and others contested the compensation arrangements, arguing it undermined any potential for emissions reduction and they pointed out the significant cost to the public purse it imposed (Mc-Kenzie-McHarg & Wakeham, 2009; Rosewarne & Goodman, 2009; Taylor, 2009c).

The debate for a minority of groups was about the type of policy on the table. A small group in FOE (in which I participated) and two socialist organisations each argued that

²⁶ Their position was that that EITE industries should 'receive full compensation for higher energy costs until the bulk of their competitors (measured as in Waxman Markey by global market share) face a similar carbon cost' (Turnbull, 2009b).

because the CPRS was a carbon trading scheme, it was flawed in theory, and in practice the CPRS was one example amongst many poorly designed trading and offset schemes around the world. FOE, Greenpeace, TWS and the Conservation Councils proposed a 'Plan B for immediate climate action' that focused on a national feed-in tariff, removal of fossil fuel subsidies, energy efficiency and forest protection (FOE Australia et al., 2009). However, the main issue for the majority of groups unhappy with the CPRS was the government's unambitious emissions reduction target. A Melbourne campaigner reflected that most people felt 'we want something better whatever the policy mechanisms are' (Courtice, 2013).

The ENGOs recognised it was crucial to have union support for the ETS (Connor, 2014; Lowe, 2014). The trade union leadership saw that climate policy had equity implications, and set about negotiating support for an ETS amongst the ACTU membership, as well as engaging with ENGOs (Maher, 2014). The SCCC members found the common ground needed to work together, and declared support for the CPRS early in 2008. This group took a decision to publicly back the CPRS legislation in May 2009. The ALP called SCCC representatives to Canberra to make a quick decision about whether to support the CPRS in exchange for a promise to create an additional (and conditional) 25 per cent emissions reduction target. The SCCC agreed to support the amendments. This decision, taken on short notice, was the subject of debate amongst members of the ACF board who felt they have agreed on too weak a package (Lowe, 2014).

Though marginal to the parliamentary debate, tensions over strategic decisions like this illustrate that the CPRS created numerous disputes. The political differences between the ALP, the Greens and environmentalists played a role in the failure of the CPRS. There were no broad displays of support from the environment movement, and some protests directed against it (Step it Up Australia, 2009). In December 2009, there was a moment when Greens Senators could have voted for the CPRS with two Liberal Senators who crossed the floor in December 2009. However the Greens chose to vote against the bill.

The internal tensions over the ETS reflect common dilemmas for movements in social democracies (Maddison & Scalmer, 2006). Campaigners were juggling the tension between radicalism and pragmatism. More broadly, the movement at that point did not have sufficient power to overcome political inertia. A little recognised casualty of the moment of 'climate crisis' in the mid-2000s, was the popular political project of climate action being built by social movement groups. A period of movement demobilisation followed the CPRS debate, and the new forms of movement organising reflect an unanswered strategic question posed by the 2007-2010 period (see chapters 7 and 8). There was an appetite to transcend pragmatic and technocratic climate governance, but in the end the upswell of climate activism did not shift parliamentary negotiations, nor did it shift the settled strategies of ENGO-union campaigning (Rosewarne et al., 2014).

Conclusion

The CPRS was a failed attempt at carbon pricing. The failure of Australia's first national compliance ETS were substantive and socio-political. These were substantive in the sense that it was not designed in a manner that would have achieved a least cost and equitable outcome, and a socio-political failure in that the ALP government was

unable to legitimate the scheme within civil society. These failures of the CPRS can be understood with regard to three proximate dynamics: strategic errors of the Rudd Labor government; concerted mobilisation from industry and the political Right; and resistance to the scheme from the Greens and part of the environment movement at the time.

As more details became revealed, the CPRS disappointed conservatives, industry and the environment movement alike. Chubb summarised the state of play half way through the CPRS debate.

By early 2009...it seemed that everybody hated the Rudd scheme. This included environmentalists, climate change scientists, emissions-intensive and trade-exposed (EITE) industries and coal-fired generators. The breadth of the disaffection laid bare the extent of the failure of policy and political strategy. (Chubb, 2014: 38)

The CPRS would have done little to reduce greenhouse gas emissions and the gains made by industry lobbyists saw the compensation provisions more than double in size. These would have generated windfall profits to industry at considerable cost to the public purse. These issues drew the ire of left-leaning economists, the Greens and their supporters, and the flaws of the CPRS provided fuel for conservative opponents.

Overall, a political consensus for carbon pricing has proven impossible to maintain. Resistance to the CPRS came from within elements of business (notably coal and electricity generators), conservative circles and elements of the environmental movement (at that point). Carbon pricing is a tool with which states seek to manage the unavoidable distributional dilemmas of emissions reduction. As the debate over carbon pricing continued, the distributive impacts of emissions reduction were topics of heated conflict. The further shifts in strategy of these groups are the subject of the following chapter.

There are normative implications from this moment in political history too. In practice the politics of constructing carbon market rules in domestic politics serve to elide more direct productive public attention to the use of government regulation to allocate the costs of abatement in a just manner on national and international scales. Through the Garnaut process, the policy reforms were determined within the narrow confines of neoclassical economic orthodoxy. Carbon pricing was subject to political challenge by experts and campaigners engaged in the policy debate. But the lengthy deliberation did little to open up a broader political debate over the role of markets in society alluded to by the former Prime Minister in his essays. Meanwhile, a major political challenge from the political Right developed; illustrating political ideology is an unavoidable feature of climate policy debate.

Overall, the critical view of the CPRS failure presented here seeks to go beyond a lamentation that the legislation did not pass. It is common for political actors and academics alike to consider the CPRS as a lost political opportunity. For instance, drawing on Kingdon's (1984) theory of public policy formation Kate Crowley (2013a) refers to a 'policy window' that was opened after years of agenda setting by policy entrepreneurs, public intellectuals and the Greens in Australia. She contends that these efforts were ultimately unsuccessful because of the power of the 'immovable objects' of political self-interest and the fossil fuel lobby (Crowley, 2013a: 369, 373-375). Crowley

paints a picture of carbon pricing as a policy solution in waiting, ready for revival when political support is roused again.

In contrast to this kind of reading of the CPRS, I have argued we should look at this instance of carbon pricing critically both in terms of the substantive and socio-political failures of marketised climate governance. This chapter signals that as early as 2009, there is evidence that carbon pricing was being undermined within expert and political circles, and would ultimately become undermined as a political response to climate change in Australia.

Chapter 7 argues that the debate over the CPRS is an illustrative case of the techno-market imaginary beginning to unravel. The technocratic vision for a global carbon market has very limited political purchase in Australian domestic politics. The broader failure to legitimate carbon pricing at this moment, was in part due to the limited popular purchase of progressive technocratic governance. Rudd expressed techno-market imaginary most clearly in 2007, responding to the short burst of domestic and international pressures for strong 'climate action'. But the substantive policy response was ultimately at odds with the populist promise. This is reflective of the Rudd government's political failings, but also the limited political power of environmental and other social movements at the time to overcome the limitations of progressive technocracy. This tension within the political Left, it will be argued, contributes to the political opportunities exploited by conservatives (see chapter 8).

5 The rise and fall of a carbon price

The bitter end of carbon consensus

Introduction

It is true that the policy positions of political parties and their attendant advisors rarely stray from the idea that market-based policy is the most desirable style of climate change reform for governments in Western democracies. However, the Australian case shows that the rhetorical content of disputes over climate policy has begun to increasingly depart from the ‘carbon consensus’ for marketised climate governance that appeared to be developing in the 2000s (Levy & Spicer, 2013). This case also reveals resistance to carbon pricing from the political Right that reflects conservative allegiance to fossil fuel capital, as well as deeper cultural and ideological values at play.

The political debate over carbon pricing in 2010-2014 is without doubt the most virulent chapter of climate politics in Australia. Pre-2010, the consensus for carbon pricing in the abstract became fragile once the scheme became a political reality. The apparent agreement between major political parties also became undone. The former Prime Minister Julia Gillard rightly argued that prior to 2010 the ALP, and LNP leaders John Howard and Malcolm Turnbull agreed that:

putting a price on carbon is the only prudent answer [to climate change] because it unlocks one of the most powerful forces on earth - the genius of the free market.
(Gillard, 2010)

This point of agreement was completely undone by the end of 2009 as the political debate over the CPRS had devolved into Party leadership intrigue within the LNP. Labor shelved the CPRS, Rudd was removed from the Prime Minister role, and his replacement Julia Gillard went to an election in 2010 without the political baggage of a

carbon price. Instead, Gillard proposed a combination of policies: an emissions standard on new coal fired power stations; additional funding for renewable energy and efficiency measures; and a year-long 150 person ‘Citizen’s Assembly’ that would review the evidence on climate change and the case for market-based regulation. By mid-2010 the new LNP leader Tony Abbott had begun carving out an alternate policy position under the mantra of ‘Direct Action’ and offered to replace the ETS with more ‘meaningful’ emissions reductions through the DAP.

Looking at the policy and political positions of major parties alone, we can see that the carbon price has not attracted broad coalitions of support. Rather, political divisions have heightened and over time the concept of carbon pricing has been normatively challenged. Extending the previous analysis, I observe that the global project of marketised climate governance was put to the test between 2010 and 2014. The ETS designed by the Gillard minority government was a closer model to ideals of good carbon market governance, with complementary clean energy measures, and a strong role for independent expert advisors in key decisions about future carbon caps and market regulations in light of international developments. However, the fierce populist resistance from the political Right undermined this political approach.

The repeal of the ETS can be read as dramatic example of the broader failure of marketised climate governance in countries like Australia where conservatives have refused to support national carbon trading proposals (Canada and US) or weakened an existing scheme (NZ). As Jessop (1998: 39) observed, governance failure can stem from governments re-articulating governance arrangements for partisan purposes or for global political advantage. The conservative resistance to carbon pricing waged a campaign against the carbon price in a deeply partisan manner that polarised contestation. And two of the key ostensible aims of the conservative government’s repeal of the ETS was to avoid international disadvantage and relieve consumers of the carbon cost burden.

This chapter explores the further unravelling of the ‘carbon consensus’ between 2010 and 2014. It begins with an overview of key events between 2010 and 2014, outlining negotiations over the CEF package, repeal and the deal over the LNP’s DAP. It then outlines key shifts in strategies and positions of experts, industry and environmentalists over time.

Australian carbon pricing politics 2010 - 2014

Between the end of 2010 and 2014 a national ETS was instituted and then repealed. The replacement DAP is now in place, with ongoing political negotiations over a mechanism to ensure the program meets its goals. Over time, public opinion has shifted, and whilst the sense of urgency about climate change has waned, general concern remains. What has been tarnished is the political legitimacy of both major parties’ climate policies.

Minority government and negotiating the CEF

Certainly, Gillard’s Citizen’s Assembly can be read as a cynical ploy to avoid committing to climate policy of any kind. On the other hand, it seems to have been at least in part a response to the dissensus over climate change and carbon pricing as an instrument. The ALP had been undecided, and reportedly split on climate policy before

the 2010 election (Karvelas & Hepworth, 2010), between those who preferred renewable energy and efficiency policy and those who wanted to pursue an ETS. Both the Greens and the LNP criticised the Citizen's Assembly (SBS, 2010). The Greens wanted to negotiate a fixed 'carbon levy' leading to an ETS at a later stage, and the LNP was developing its DAP.

The climate policy debate took a major and quite perplexing turn under the Gillard-Rudd government (2010-2013). The ALP did not win sufficient votes in the 2010 Federal election to form government. The Greens won their first lower house MP and their primary vote rose 4 per cent, taking votes mostly from Labor (Miragliotta, 2013). The marginal Federal election outcome created conditions for the Greens to hold the balance of power along with 3 independent MPs. Part of the conditions for the Greens' participation was that the government return to its proposal for an ETS. In September 2010, a Multi-Party Climate Change Committee (MPCCC) with the purpose of designing a carbon price was formed.

The MPCCC met four times between October 2010 and July 2011. The MPCCC terms of reference set out the primary goal was to 'consult, negotiate, and report to the Cabinet, through the Minister for Climate Change and Energy Efficiency, on agreed options for the implementation of a carbon price in Australia' (DCCEE, 2010). The ETS produced by the MPCCC was a very similar ETS to the CPRS, and sat in a larger set of programs and funding. Most design features of the ETS in the CEF legislation were the same as the CPRS (see Appendix A).

Changes included reduced coverage from 1000 to 300 companies; 3 year rather than 1 year of a 'fixed price' period with a 'ceiling' and 'floor' price; new restrictions on international offsets; and linkage to the 'carbon farming' offset scheme legislated in 2011. An independent Climate Change Authority (CCA) was set up to conduct periodic reviews of Australia's emissions targets. Additional household compensation through progressive tax reform and welfare amendments was agreed to as well as additional R&D spending on renewable technology. A state-backed bank for energy finance, the Clean Energy Finance Corporation (CEFC) was set up with the capacity for \$10 billion in loans to renewable energy and gas projects. This was an idea originally proposed by the ACF and supported by the ACTU (Maher, 2014; O'Connor, 2014).

The committee was flanked by four experts and drew on an updated Review by Garnaut. Within the MPCCC prior differences between the Greens and ALP needed to be reconciled. In a number of respects, the political differences were ironed out through policy design. The debate over emissions targets was 'set aside', with the Greens and Labor announcing that they would design a 'hybrid model or a tax, which enables us to put a price on carbon but leaves the finalisation of a target to a globally-negotiated binding treaty' (Milne cited in Johnson, 2010). Targets would be subject to ongoing independent review, and the ETS was designed in such a way as to ensure that the initial target could not be compromised in the event of a future government wanting to limit the scheme further. Under the *Clean Energy Act*, if a government did not wish to increase the emissions cap in 2016, an automatic reduction target of 12 million tonnes would be set for that year in a 5 per cent below 2000 levels by 2020 trajectory.

The Greens and Labor disagreed over the levels of CPRS compensation, but in 2011 the Greens did not stop a compensation package similar to the one agreed to under Rudd.

There were also tensions between the Greens and ENGOs campaigning for the carbon price who arguably came out in support of the ETS before the details had been negotiated (see chapter 7). The ‘Say Yes!’ campaign run by a broad coalition of ENGOs and trade union organisations involved media advertising, online and public protests. However, overall, the outcome was celebrated by those campaigning for climate policy.

A former Greens staffer reported that the strength of the CEF package was attributable to the negotiating power of Milne in the room, and the contributions of advising experts (Hollo, 2013). Garnaut was helpful on the design features and climate scientist Will Steffen was persuasive in communicating the level of ambition needed for the 2050 goal, moving agreement from 60% reductions to a 80% reductions on 2000 levels by that year.

Many people interviewed for this research reported that the CEFC, CCA, the Climate Commission and a longer ‘fixed carbon price’ period were political wins for the Greens. The Greens had come to be frequently criticised for their role in blocking the CPRS. Being able to claim a better deal with additional measures and levers to improve the ETS was important for maintaining legitimacy in the eyes of their supporters and networks. ENGOs also backed the push for more expert input into a revised carbon price. For instance, WWF organised economists to write an open letter arguing for an independent authority to oversee the carbon price, similar to the Reserve Bank of Australia (Brennan et al., 2011).

The CCA reflects the Greens’ and ENGO emphasis on technocratic climate governance, and specifically, the notion that independent expert advice can deliver political outcomes. Former Greens staffer Tim Hollo explained that because the CCA would undertake rolling 5 year reviews of the emissions cap, this meant emissions reductions could be increased. In his view the CCA removed the upper limit to emissions reduction ambition (Hollo, 2013). Greens leader Christine Milne also emphasised the role of the CCA in determining future carbon targets (ABC, 2012a). However, the CCA did not have powers to mandate emissions caps. Under the *Clean Energy Act*, the Minister must ‘have regard to’ CCA reviews relating to emissions caps and other ETS regulations. So the role of the CCA was largely normative - a means to ensure updated climate science was part of the ongoing considerations of the government.

Advice from scientists and economic policy experts figured in another public agency produced in 2011. The Climate Commission was also set up to provide information and expert advice on the science of climate change and the impacts on Australia. Like the CCA, the Climate Commission was described as apolitical. It was a replacement for the Citizens Assembly, with six commissioners, who delivered public reports and held numerous town hall events across Australia. One Commissioner described the role of the Climate Commission, saying that it did not have input into policy, only a role in drawing out some themes for public discussion (Anonymous, 2014d). Another Climate Commissioner elaborated on this, saying:

.. we would never come out and say this carbon price is the right thing to do or the direct action is hopeless or whatever, we did not do that. We talked in a very general way about the need for pricing carbon pollution and saying, look, there's all these different ways that you can do that. In fact, we talked a lot about the fact that there was not just one single solution. (Anonymous, 2013a)

The creation of the CCA and Climate Commission illustrates the role of expert advice in both re-regulating and legitimating carbon pricing, albeit without providing explicit advocacy for this or any one type of policy instrument. The introduction of these bodies reflects the ideal governance logic of procedural and reflexive rationality guiding political economic outcomes (Jessop, 2002: 230).

The hastened EU link

In August 2012, the ALP announced that the ETS would link to the EU ETS in 2015, and that the 3-year carbon price floor would be dropped (the price floor was equivalent to \$15/tCO₂-e increasingly by 4% annually). The government also introduced new limits on access to international offsets. The upper limit on international credits would remain at 50%, however, only 12.5% of credits retired could come from CDM and JI credits. The remaining 37.5% of credits could be EUAs. The Greens were not in a position to stop the announcement, and were attracted to the idea that linking to the EU would make the ETS harder for the opposition party to repeal and to the new limit on Kyoto credits (Wilson, 2012a).

This posed a political problem because the international carbon price at the time was between \$4–6 / tCO₂-e, much lower than Australia's three year \$23 / tCO₂-e fixed price on carbon. A serious budget deficit was likely to follow the EU link. It also posed major risks to the environmental integrity of ETS. Australian firms would have been buying the free permits (over-)allocated to firms in the EU, illustrating a perverse situation where high emitting firms in Australia seek 'low cost' abatement from Europe that has come as a free gift of carbon rights from EU states. The situation is a product of the broad scoping powers to change offset regulations held by the Australian Environment Minister (see chapter 3).

The decision to link to the EU ETS so quickly appears to be a political tactic. The Gillard Labor government wanted to jettison the label of having instituted a 'carbon tax'. The situation illustrates a kind of crisis shifting process for European and Australian regulators and decision makers. At the time, EUAs were at the centre of a recent crisis for the European scheme. There is a surplus of almost 2 billion allowances in the 2013-2020 (European Commission, 2012). Reasons for this include: EUAs were over-allocated to firms in both phase II of the EU ETS (2008-2012); cheap CERs flooded into the EU carbon market in 2012; and EU market rules allow EUAs to be banked forward into third phase (2013-2020) (Morris, 2013).

The European Parliament had voted to address this problem by 'back-loading' some of the excess emissions units. The auction of 900 million allowances from 2013–2015 will be held back until 2016–2020 in the hope that it will allow demand to pick up. However, the European Commission recognises 'back-loading' would not address the structural problem of having a surplus of around 2 billion allowances in the 2013-2020 period (European Commission, 2012: 6). Discussion about structural reforms of the EU ETS are ongoing.

Given the limitations of backloading, the Australian decision to link to the EU was remiss. The importation of EUAs would have further jeopardised the environmental integrity of Australia's scheme, and it would have increased the fiscal burden on the

Federal government. When in place, the provision would have created windfall profits for firms selling EUA units on.

Following criticisms from commentators and economists that linking to the EU would create a negative fiscal outcome, the ALP then moved to cancel the generous contracts for the closure scheme for 2 GW of coal fired power (Pierce, 2012; Price, 2012). The closure payments being negotiated up to that point were going to go to brown coal generators in Victoria as they are the most emissions-intensive and some of the oldest power stations in the National Electricity Market (NEM).

The carbon price became a central point of debate as the ALP became further embroiled in internal conflict and conservatives mobilised against the Gillard government. Across 2012, Gillard's leadership became tenuous. Three leadership spills occurred, following tension between Gillard and Rudd. The ballot in June 2013 saw Rudd come back as Prime Minister for 3 months. Efforts by Labor and ENGOs to legitimate carbon pricing in this context failed.

The conservative campaign against the Gillard government in general, and on the carbon tax specifically, did not relent even after the ETS was well underway. The LNP government won the September 2013 election. Abbott announced that the election was 'a referendum on the carbon tax.' (Griffiths, 2013). The election result however, did not provide clear evidence for this. The Greens and ALP suffered major swings against them, with only a small swing to the LNP, and the largest shift gained by independent parties (Rootes, 2014: 167). Opinion polling from this period does not support this claim either.

Public opinion shift

It is perhaps an understatement to observe that the carbon pricing debate in Australia became increasingly politically polarised, mirroring the experience of North America (Antonio & Brulle, 2011; McCright & Dunlap, 2011b). Importantly, the de-legitimation of existing state action on climate change holds for both of the major political parties in Australia. In this period, public support for both major political parties' climate policy plummeted. Polling results indicate that public views on climate policy may indicate limited support for carbon pricing, but they also indicate support for the Direct Action Plan is just as low, whilst concern for climate change appears to be increasing again.

The Lowy Institute polling illustrates that the overall sense of urgency about climate change has declined (figure 5.2). And TCI polling indicates that support for the carbon price legislation is low (figure 5.1). There is now evidence to suggest the public does not prefer either of the major party's climate policies. In 2014, 26 per cent of people preferred to keep the carbon price over the DAP, 20 per cent preferred Direct Action, but a majority of people chose neither policy (TCI, 2014: 16). However, the 2014 Lowy poll found that the majority (68 per cent) of people polled believed the Australian government should 'taking a leadership role on reducing emissions' (Oliver, 2014: 63). Twenty eight per cent believed the nation should wait for 'international consensus' and 7 per cent believed Australia should do nothing.

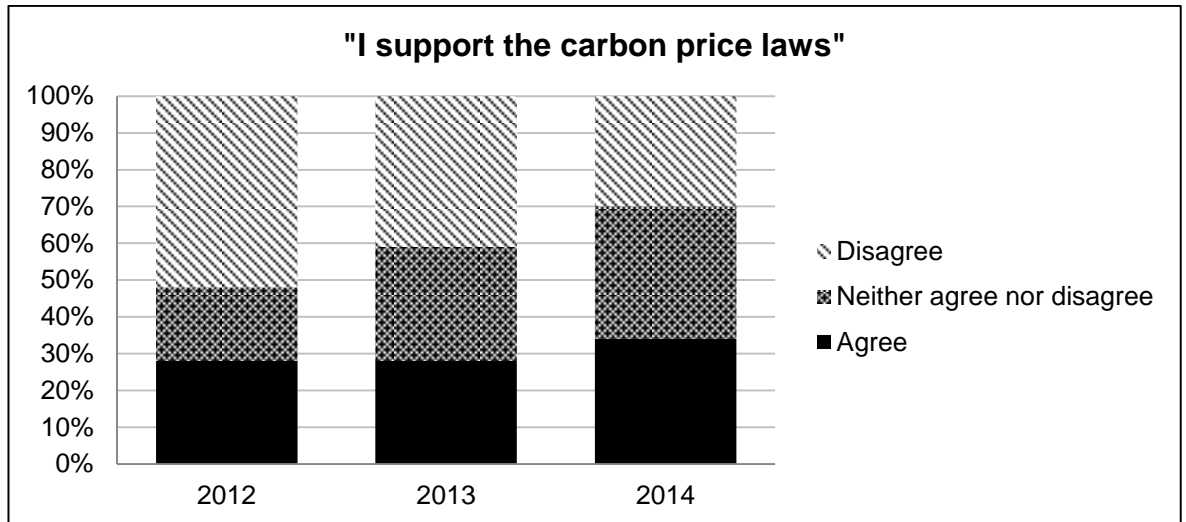


Figure 5.1 Support for the carbon price

Source: (TCL, 2014: 15)

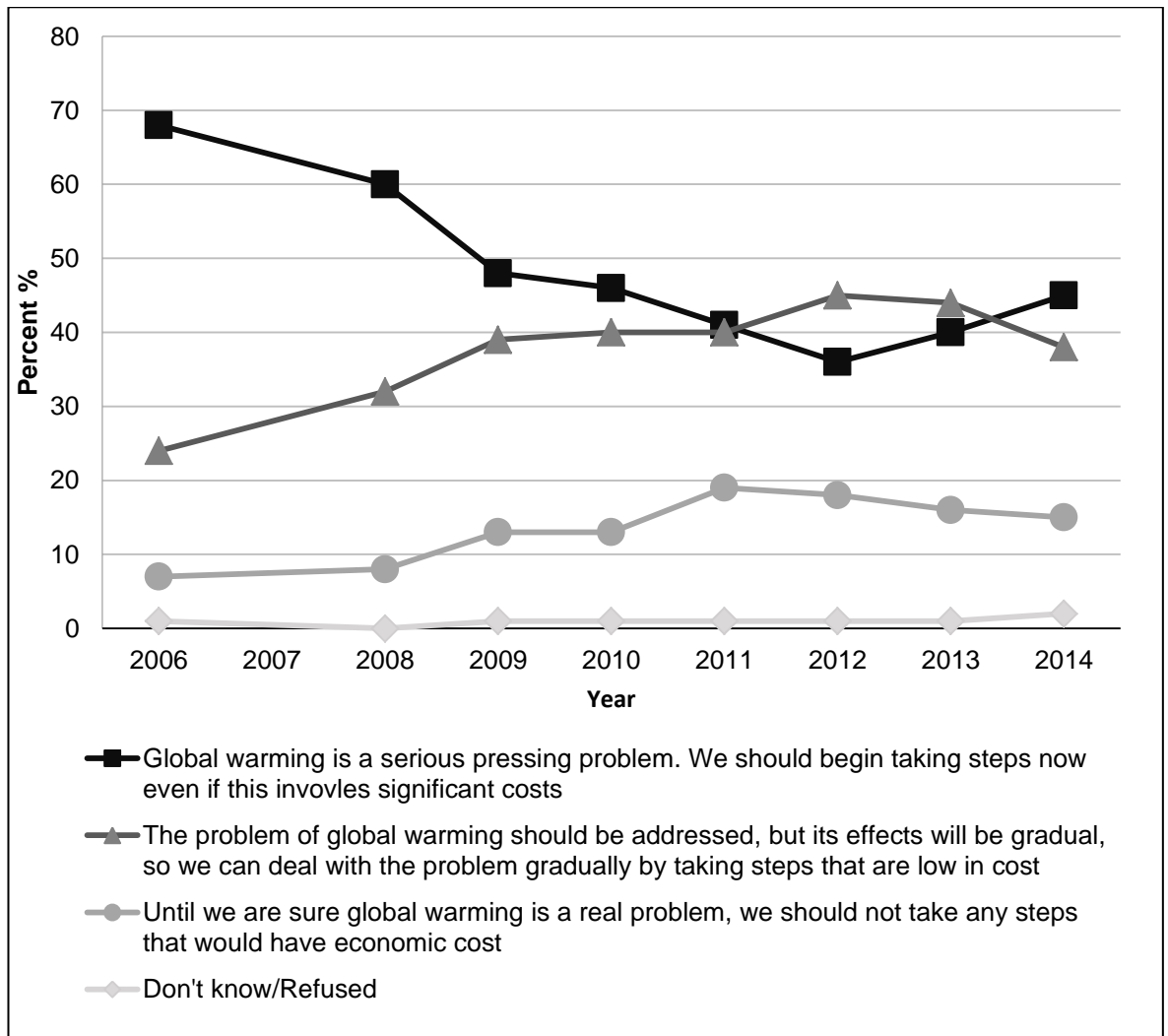


Figure 5.2 Views on global warming, Lowy Institute Polls 2006-2014

Source: (Lowy Institute, 2014)

Interpreting the broader political meanings of public opinion poll data is difficult. More general research on attitudes to climate change (how serious it is, whether the government should act), finds that people are divided on the basis of party identification and political ideology (Tranter, 2011, 2013). There is limited analysis of the relationship between demographics with views on carbon pricing as an instrument. Pietsch and McAllister (2010) considered support for the ETS in their 2008 survey analysis, and found that self-reported understanding of climate science did not predict views on the ETS. Age and professional occupation were statistically significant factors. People who strongly opposed the ETS, were on average older and less likely to be employed in a professional occupation.²⁷

In general, what does seem to be clear is that a majority of the public are not strongly supportive of carbon pricing, but retain a general concern and support for the government to act on climate change. These broad contours of the public sentiment are recipe for further legitimisation crises.

ETS repeal and the deal over Direct Action

Once in government, the LNP immediately set out to repeal the ETS and related programs. The Abbott government's alternative DAP was legislated in October 31st 2014 after a heated debate about whether this measure would contribute to emissions reduction. The ALP debated whether or not to support the repeal, but eventually decided to oppose it. The LNP passed the repeal bills in the lower house, but did not have a majority in the Senate. For the majority of the 6 months before the new Senate began, the potential repeal votes were not certain. The Palmer United Party (PUP), a new 'micro-party' headed by real estate millionaire and would-be coal baron Clive Palmer, did not reveal the specifics of its voting intentions for some time.

In July 2013, the repeal of the ETS and retention of other climate programs was agreed to. In the Federal Senate the ALP and Greens split the ETS repeal bill from those repealing the CEFC and CCA in order to save them. The ACF and a former Greens power broker worked behind the scenes to try and convince the PUP to protect the ETS, but to no avail. They brought Al Gore together with Clive Palmer to discuss the repeal and related issues, but Gore did not manage to change Palmer's mind (Griffiths, 2014). Palmer announced that he would vote in favour of the ETS repeal, but would oppose changes to the RET (a more effective renewable energy policy), and support keeping the CEFC and CCA. Palmer and Independent Senator Xenophon also proposed a 'zero carbon price' until all of Australia's trading partners begin an ETS (Morris, 2014).

The latter signals that the carbon trading persists as a key policy option. The PUP senators voted for the ETS repeal on the condition that the CCA undertake a review to consider its proposal for 'zero carbon price', which was effectively a dormant ETS that would not begin if Australia's international trading partners each installed a similar measure. There is also a push from an independent Senator to change the DAP into a form of carbon pricing. Senator Xenophon voted for the DAP on the condition that the

²⁷ Gender, family income, and education were not significant (Pietsch & McAllister, 2010: 227-228).

safeguard mechanism would be strong enough to ensure Australia meets its international obligations. Xenophon has been consulting with the LNP over the possibility of transitioning the DAP to a baseline-and-credit scheme similar to the one the LNP proposed in 2008 (Frontier Economics, 2009). This mechanism is still under debate (as of May 2015).

From dissensus to polarisation

There was a four year period of conflict between the CPRS failure and the ETS repeal briefly described above. The disagreements among industry, civil society and political parties developed and shifted in new directions from 2010. Experts continued to speak in hypothetical terms and carbon price design, industry went through a public period of debate over its views of climate policy types, and environmentalists debated strategies over the next ETS. However, possible locations in the political contest have become more starkly defined as either for or against carbon pricing.

Expert debate over carbon pricing after Copenhagen

Between 2010 and 2014 when the ETS was repealed, some of the public divisions between expert economists were still present. For instance, in the wake of the Copenhagen Accord and the failure of the CPRS, experts affiliated with the Lowy Institute argued that the crisis of climate governance required an alternative approach to cooperation and carbon pricing. Fergus Green, Warwick McKibbin and Greg Picker (2010) argued for a ‘price-based international framework’ where nations enter into agreement based on an standardised carbon price, rising year-on-year rather than a targets and timetable approach with emissions trading. The authors argued their framework was a means to broker agreement within the Major Economies Forum where major emitting nations might engaged in a trust-building exercise.

Former Federal public servant, now private sector economist Geoff Carmody retained his view that a carbon tax is preferable to both an ETS and the DAP. He opposed the DAP on the basis that ‘...direct action measures are expensive. One way or another, consumers pay’ (Carmody, 2010a). On the politics of pricing, he observed that arguments from political parties tended to neglect the cost shifting elements of carbon pricing.

Let's be clear. Climate policy is intended to raise prices of emissions-intensive products compared with greener products. It's not intended to cut real incomes. Using most of the revenue from a carbon price to cut other distorting taxes and increase welfare payments can achieve the first effect and avoid the second. (Carmody, 2010b)

Garnaut's response to Carmody was to argue that if national emissions targets were specified in terms of consumption rather than production it would be somewhat beneficial. However, Australia would still have been under pressure to change its energy industries, particularly coal. Regardless, he felt that it is too late to influence the international community to change regulation norms.

We can think it a pity that we were not more active in international diplomacy when these matters were settled, but that does not allow the history to be re-wound. (Garnaut, 2011a: 6)

The discussion about these alternative carbon price frameworks illustrates ongoing diversity and debate in economists' thinking about what is politically possible.

Once the MPCCC deliberations were underway, there was sufficient agreement and weight put behind the hybrid carbon price model. The Australia Institute supported the MPCCC's carbon price this time around (Denniss, 2011) and shifted to arguing for a carbon tax (Denniss & Richardson, 2010), for well-designed complementary climate policies, and for the retraction of contradictory policies subsidising fuels (Denniss & Grudnoff, 2011a).

The Grattan Institute released a report reviewing Australian climate policies (market mechanisms; grant tendering schemes; rebates and energy efficiency standards), and argued that an economy wide carbon price would be the most efficient means to deal with climate change (Daley & Edis, 2010a). Daley argued that an ideal scheme would be a hybrid carbon tax and trading scheme, allowing the permit price to vary but not fall below the set level. Frank Jotzo, an advising economist to the MPCCC, had also done work on the importance of a price collar (Daley, 2013; Wood & Jotzo, 2011) and Garnaut (2011a) supported a hybrid carbon price in his updated paper on pricing carbon released February 2011.

Former OECD economist and commentator Henry Ergas continued with a campaign on the Treasury modelling for the new ETS (Ergas, 2011a, b). This was picked up by the LNP Parliamentary Committee which outlined Ergas' criticism about the assumptions of the Treasury modelling and failure to release details of the formulas used (Federal Senate, 2011a, b). Ergas and Robson argued that the Treasury's modelling assumes that the other nations will implement the commitments made at Cancun and a sufficiently linked carbon market will emerge, and that the resulting carbon price will reflect and equalise participating countries marginal carbon abatement costs. The modelling likewise assumes credit offsets with low transaction costs, with free permit borrowing and banking (Ergas & Robson, 2012: 12). The critics concluded that these were unrealistic assumptions, and thus undermined the case for an ETS in the absence of other nations acting.

In response, Treasury clarified that they do not assume all other industrialised countries will install an ETS, but they do assume nations will meet their emissions targets under the Copenhagen and Cancun agreements (Federal Senate, 2011b: 22-23). Treasury also assumed international linkage will be viable without a broad internationally linked carbon market.

.. we are assuming that there is an arrangement, either through an international framework or through bilateral trades, such that Australian liable entities are able to purchase offsets overseas. That is not the same as saying that all countries have to sign up to an international binding agreement.. (Quinn cited in Federal Senate, 2011b: 239)

The LNP-led Senate Select Committee focused on the modelling, and argued that the ETS was an attempt to avoid public scrutiny (Federal Senate, 2011a).

As the repeal of the ETS became imminent, TAI set out to criticise the DAP as an example in a longer history of costly, inefficient competitive grant schemes mismanaged by government (Denniss & Grudnoff, 2011b). Garnaut reported to the

Senate Select Committee on the DAP that the program could have been ‘muscular direct action’ similar to the US Climate Action Program. However, the Emissions Reduction Fund (ERF) does not guarantee emissions reduction and poses a threat to the budget (Garnaut, 2014: 2).

There were efforts to implore the LNP to retain an ETS. Garnaut suggested that the LNP consider shifting to an ETS with no limits to purchasing CDM credits in lieu of the DAP, suggesting the price would fall to 40 cents a tonne, very close to the PUP’s ‘zero carbon price’ (Hutchens & Cox, 2014). In a similar vein, the Climate Institute and experts in the Climate Change Authority suggested the ERF be expanded to include international offsets in order to ensure Australia meets the carbon target (CCA, 2014b; TCI, 2013). International abatement is now frequently cited as an advantage of carbon trading compared to the LNP’s Direct Action Plan. Environmental advocates, scientists and economists alike make these arguments.

Industry re-positioning and the push for repeal

After the formation of the Gillard minority government industry representatives shuffled around, and repositioned themselves on the question of a carbon price. By and large it seemed that for the most part, an ETS was the preference. The most significant departure from the common industry preference for emissions trading over carbon taxation occurred in September 2011 when the CEO of BHP Billiton came out arguing against a broad ETS. Marius Kloppers argued that:

A single encompassing trading system and the academically elegant economics surrounding it is not the solution. (Kloppers cited in Lee, 2010)

Kloppers instead argued for a more simple revenue neutral carbon tax which rebated export industries until a global emissions reduction scheme was in place, with a broad suite of measures including land carbon sequestration and a trading scheme limited to the power sector.

The other big mining companies Xtrata and Rio Tinto did not comment on Klopper’s newly announced policy preference. The CLP Group opposed Kloppers idea outright (Murphy, 2010). Fortescue Metals CEO Andrew Forrest observed that BHP Billiton had described a policy that would benefit themselves, in a similar way to the terms BHP Billiton, along with other large resource firms, had been able to negotiate on the Minerals Resource Rent Tax.

[Kloppers] is embedding a tax that will be paid for by everyone else, à la the minerals resource rent tax. (Forrest cited in Yeates, 2010)

Forrest signalled reluctant support for a carbon tax, but preferred an ETS. He also argued in favour of considering the soil carbon sequestration option (the main focus of the LNP’s Direct Action Plan). Business associations were not enthusiastic about the carbon tax option being placed on the table. Ai Group said a carbon tax had many of the same problems as an ETS. The NFF said they could only support a carbon price if it did not disadvantage the agricultural sector. The ESAA power company industry group suggested ‘an efficient and equitable ETS is the answer but there might be other options for effective carbon pricing’ (see Taylor, 2010).

The debate within business circles over taxation versus trading continued into October 2010. Bob Every, the head of Wesfarmers (one of Australia's largest retailers) also stepped away from supporting an ETS, saying he preferred a carbon tax in light of problems associated with derivatives trading during the global financial crisis.

So I don't see personally why we should introduce another derivative. I think if we do have a price, it should be a carbon tax. (Every cited in Hepworth, 2010)

As the MPCCC discussions moved on, so did industry. They shifted back to campaigning for compensation. Industry groups were hostile to the Greens and their prior opposition to levels of compensation (Yeates & Morton, 2011). Steel manufacturers threatened closures at numerous points. Australia's manufacturing industry had begun to suffer due to the high Australian dollar, a by-product of the mining boom.

Manufacturing and coal mining had the support of unions in their campaign for compensation. The Australia Workers Union, Australia's largest manufacturing union, supported the call for further compensation (Shanahan, 2011). Coal miners successfully campaigned for compensation at the same level as the Rudd governmental pledge of \$1.5 billion (Maher, 2011a). The ACTU backed the coal industry, and warned that the government faced 'a blue-collar revolt unless gassy coalmines received the same level of compensation as that offered in the carbon pollution reduction scheme' (Maher & Hepworth, 2011). The ACTU was also a participant in the 'Say Yes!' campaign alliance with ENGOs that ran during the MPCCC negotiations aiming to garner support for the CEF package.

In July 2011, an alliance of export-oriented industries ran a \$10 million campaign (Coorey, 2011). Australian Trade and Industry Alliance was made up of a number of industry groups in the mining and export-oriented freight and manufacturing industries. The MCA pushed against the ETS and stood in support of the LNP's campaign against it. The BCA was also critical, and reportedly fell out with the ALP (Priest, 2011). In comparison the Ai Group was much supportive of the ETS. They unsuccessfully argued for a lower carbon price of \$10/tCO₂-e. But did inspire the ALP to call on State governments to remove other energy and emissions-related policies (Maher, 2011b, c).

Some points of the LNP's criticisms of the ETS were not supported by business. For instance, after Rudd announced the ETS would link to the EU one year early, Abbott insisted international abatement would threaten the viability of the scheme, rendering the carbon tax a 'pointless exercise' (Abbott cited in Taylor, 2011). The AIGN and BCA responded saying that they favoured access to international abatement, and the domestic reductions would double the carbon price (Taylor, 2011).

Advisors to the LNP on its Business Advisory Council on climate policy argued that an ETS is only suited to a 'narrowly defined, easily measured market such as sulphur dioxide, or if the whole planet conforms to an agreed set of trading rules.' (Allison & Palmer, 2013). ETS is more similar to the idea of DAP than usually recognised.

The European ETS is really an amalgamation of two market mechanisms: domestic emissions licenses and international abatement credits. These credits are a form of

direct action, purchasing emissions reductions against an agreed baseline - sequestering carbon in trees or switching to low emissions technologies. This is sometimes grudgingly referred to as “paying polluters to reduce their emissions”. (Allison & Palmer, 2013)

In a similar vein, the ACCI observed that there was no genuine mainstream support for either a carbon tax or ETS, and questioned its status as a market mechanism.

Those who portray the ETS as a market mechanism should take a closer look. In practice it is no more than an artificial construct of government, which sets all the rules about permit allocation and coverage and can change them at any time. It raises the question: what part of the European economic model, with all its rigidities and regulation, has been so successful that it should be copied in Australia? (Evans, 2013)

In effect, this push back against the ETS was expressed through particular kinds of objection to marketised governance as quasi-market, or even potentially tending toward command coordination. Where advocates saw flexibility and potential scope for increased ambition in the carbon price institution, opponents in business and the political Right saw rigidity.

The latter examples of industries resistance to market mechanisms reflected and contributed to the process of politically undermining marketised climate governance led by conservative public figures between 2010 and 2014. As the LNP 2013 election victory became more certain, industry groups began campaigning for carbon price repeal. And after the election, all the major industry groups called for a swift repeal, and argued against delayed action on the basis of costs. In DAP negotiations, the MCA pushed for the potentially strongest compliance element of the scheme - the ‘safeguard mechanism’ to be delayed and split off from the ERF (Mather, 2014). This request was successful (Taylor, 2015), and the Ai Group argued for international offsets to be recognised in the form of a baseline-and-credit scheme.

Counter movement mobilisation

In the course of instituting the carbon price, the conservative counter movement mobilised to oppose it. The main arm of this dissent came from the LNP leadership, as well as a supporting layer of media personalities and public intellectuals. In climate policy debate, public intellectuals in research institutes vocally represent conservatives in Australia like the Institute for Public Affairs (IPA), the Centre of Independent Studies (CIS), and the Sydney Institute. They have a voice in the Murdoch media, and an institutional arm in the LNP. There are also a range of vocal individuals that have led the conservative resistance to carbon pricing. These include climate sceptics Ian Plimer, Jo Nova, media personalities Alan Jones and Andrew Bolt, and international sceptics Christopher Monkton and Bjorn Lomborg.

Some of these individuals have connections with the resource sector, in keeping with existing evidence of links between conservative individuals and organisations with oil and mining industries (Gelbspan, 2005; Jacques et al., 2008; G. Pearce, 2007). For instance, professor of mining geology Ian Plimer has been a director on several mining company boards. Christopher Monkton’s lecture tour to Australia in 2010 was part funded by mining magnate Gina Rinehart (Hickman, 2010). In other cases, the

connection with fossil fuel interests are less explicit. The preference for energy-intensive industries is part of a broader political project; an expression of conservative resistance to government intervention and technocracy.

To a degree most of these individuals have questioned climate science, or some aspect of it. For instance, radio host Alan Jones' contention that Australia is 'producing 0.000018% of carbon dioxide' in the world instigated a disciplinary case against him by the media regulator (Holmes, 2011). There have been numerous debates over Ian Plimer's claims about climate science which were connected with a tendency for regional newspapers to write unfavourably about the ETS (McKewon, 2012). There has been a general tendency amongst conservatives to use turns of phrase that put scientific evidence for anthropogenic climate change into question. However, the conservative movement's opposition to government emissions regulation, and specifically carbon pricing, was more salient than its attention to climate science.

Conservatives were intently focused on opposing the 'carbon tax' and undermining the authority of the Labor government. The LNP has opposed carbon pricing because of the compliance costs they argued an ETS imposed on the state, industry, and society. Conservatives have a particular political and cultural allegiance to the role of fossil fuels in society. And their views are underlined by a realist outlook on multilateralism and political opposition to technocratic governance (see chapters 7 and 8).

Prime Minister Julia Gillard was continuously attacked as a 'liar' for reversing her pre-election position not to pursue a carbon price (Summers, 2013). This was an embellishment. The dispute for conservatives was based upon different definitions of carbon taxation versus emissions trading. Prior to the election, Gillard stated that 'there will be no carbon tax under a government I lead..'. On the day before the 2010 election, Gillard clarified her position as being congruent with potentially legislating an instrument like the CPRS if the ALP won government.

I don't rule out the possibility of legislating a Carbon Pollution Reduction Scheme, a market-based mechanism. I rule out a carbon tax. (Gillard cited in Kelly & Shanahan, 2010)

In 2011, the small but intensely vocal group of antagonists held public protests against the carbon tax. Whilst they were not mass rallies, they were widely communicated through national media. At these rallies Abbott made a 'pledge in blood' to abolish the carbon price, to 'axe the tax' (Abbott in Grattan & Wroe, 2011).

There was a visible gender component to this contest. The hostility towards the Gillard government's undertaking to negotiate a carbon price was often expressed in gendered terms. For instance, in May 2011 protestors opposing her government's carbon-trading scheme held signs reading "Ditch the Witch", "JuLIAR", and "Bob Brown's Bitch".²⁸ LNP leader Tony Abbott famously addressed a rally outside of parliament house in front of these signs. These public displays parallel the data McCright and Dunlap

²⁸ Senator Bob Brown was the leader of the Greens at the time. He was replaced by Christine Milne in April 2012.

present on gender as an underlying dimension of scepticism among the American population, along with class status and ideology (McCright & Dunlap, 2011a).²⁹

Conclusion

A carbon price was instituted in Australia in difficult political circumstances. Out of the deals made to form a minority Federal Government, a more closed political process brokered between Greens, independent and ALP parliamentarians led to the CEF package. The MPCCC was a confidential and pragmatic deal made possible by the minority government, but the ETS was instituted on unstable political ground. From 2010 a conservative movement began mobilising against this policy and environmentalists waned in their numbers on the ground. The final section (chapters 7 and 8) reflects on the normative implications of the contest between these actors.

The CEF legislative package reflected the progressive technocratic ethos perhaps even more so than the first Garnaut process in 2009. In the political negotiations over a carbon price between 2010 and 2011, the Greens, experts and ENGOs placed a great deal of emphasis upon a new statutory body, the CCA and the Climate Commission to provide for good governance. This was key to the collective sense of having improved the ETS, in that the CCA represented a source of *potential* increased ambition. These new bodies represented a resolution for environmentalists who had been split over the policy in 2009. At least for the green movement, technocracy promised a means to progress their agenda through the state. However, this became one of long list of reasons to resist the ETS for conservative opponents who were running a very public campaign in Parliament and in the media from 2010.

As the conservative resistance to carbon pricing pressed on, new issues related to the scalar (re-)distribution of burdens and carbon limits were created, and an important political dynamic has emerged in the debate over carbon pricing with regard to the distributional impacts of the scheme. The conservative party has set out to delegitimise emissions trading as regressive (see also chapter 8). In response to the anti-tax rhetoric, the Rudd government sought to rearrange access to international carbon credits. This was yet another partially successful attempt to resolve legitimisation issues which resulted in a re-scaling of carbon market governance and displacement of national responsibility.

There is another fold to this distributive dilemma. Industry groups who had long campaigned against the fixed carbon price period were still unhappy, and called for more flexible international offset arrangements than the EU link allowed. Meanwhile, conservative opponents continued to target the purchase of international offsets as a sign that the ETS would achieve nothing. This did not achieve support from business either. These developments have created a major political impasse.

²⁹ I have not found space in this project to explore gender relations and climate politics theoretically (for a start see MacGregor, 2009, 2010). The highly visible gender dynamics at this moment in the Australian political debate invites us to acknowledge that climate politics is constituted through gender relations. There is another research project looking into the gender orders of institutions involved, including but not limited to parliaments, industry organisations, unions, NGOs and the media.

The normative implications of these dynamics are discussed further in Section III. For now, the substantive issues that these contests produce are important. The result of the political conflict over the ETS involved two key distributive outcomes since 2010. The repeal of the ETS legislation means the modest 2020 emissions reduction goal and a significant 2050 target has been lost. Before that however, we can see that the contestation also contributed to a weakening of the already limited potential of the ETS to reduce emissions through removal of the price floor, and by pursuing a link to the EU market. The potential for abatement was compromised, and the public costs of the scheme went up as a result.

In socio-political terms, this contest also involved a visible process of undermining the political case for marketised climate governance. By asserting protectionist concerns over nationally defined energy interests, conservative opponents in particular have in a manner of speaking resisted the globality of the carbon trading project. Where carbon pricing advocates argue there are benefits for international cooperation and even profits to make, conservatives have pushed back, emphasising the compliance aspects of carbon pricing and the ongoing stalemate over international burden sharing.

During the conflict, questions of international and national carbon price governance were raised and left unresolved. The most politically important dimension of the debate continues to be whether and how the state will restrict access to conditions of emissions-intensive production. In Callon's (2009: 541) terms, this is a 'stem' issue. Conservative actors persistently object to 'unilateral' carbon abatement on the basis of sovereign risk. Carbon pricing does not necessarily promise a resolution of the state's dilemma in this regard, and conservatives have a further arsenal of arguments against 'differentiated' issues such as the fictitious nature of carbon commodities. Rather, the contradiction and conflict dynamics are augmented into new, but no less crisis prone forms (see chapter 2).

The continual positioning and repositioning on these policy issues is clearly evidence of cynical and cyclical politicking over climate change. Nonetheless, these events and the dynamics surrounding them point to older, and more fundamental contradictions within capitalism that are at best partially and temporarily resolved by marketised climate governance. Carbon pricing is in effect an ambiguous governance mechanism. In carbon pricing, advocates see scope for a reflexive process of correction and increased ambition over time, and detractors see rigid command controls and arbitrary intervention into the national economy. Both sides in the conflict over carbon pricing are selectively reading different things into a contradictory governance mechanism.

6 Case studies of governance failure

Energy markets and land carbon offsets

Introduction

The marketisation of climate policy reform was born in conflict, and continues to be the subject of debate, particularly in regard to energy prices and carbon offsets to a lesser degree. In the context of contention, there is simultaneously cautious but eager experimentation with novel forms of carbon pricing, pilot programs, permit market design and implementation in new jurisdictions. Over time, carbon pricing schemes have faltered in the face of technical issues, protests, elite political intrigue, corruption, and so on. This chapter examines various substantive issues of carbon price governance and governance failure in more detail.

As a point of departure, the following three observations about carbon pricing are important to my argument. The first pertains to novelty. The majority of the issues presented here are associated with carbon trading in particular. However, the limitations of Australia's ETS in light of dynamics within domestic energy sectors are issues that would apply to both carbon trading and carbon taxation. The process of instituting carbon prices involve the introduction of new forms of resources use and access rights, new liabilities, trading rules, and property rights, which sometimes result in full commodification. The newness of these particular situations can be overstated, or unclear. In practice, carbon taxes and cap-and-trade schemes are instituted by legal statute, on top of pre-existing regulations and social practices which shape a variety of commodities e.g. electricity, minerals, aluminium, steel, textiles, timber, and agricultural products. When carbon pricing interacts with a variety of commodities and market institutions, the outcomes are unsurprisingly diverse. The outcomes depend on a host of contingent factors, including pre-existing governance failures that carbon pricing

either does not address, or may exacerbate. Energy markets and conservation programs in rural landscapes are given as case examples.

The second observation we can make is that the actually existing failures at hand are not a clear cut issue of market failure or state failure. Rather, they result from the activities of, and relations between, public and private organisations and agents. This is the case before and after carbon pricing. For instance in the case of the electricity sector, major structural change has occurred since the late 1990s. Progressive privatisations are underway, electricity generation and retail have been separated from transmission and distribution, and consumers now choose their suppliers (Chester, 2014). In this context, the failure to provide efficient (and therefore lower emissions) and affordable electricity is a failure of governance, wherein a mix of public and private agencies have contributed to a given situation.

Finally, carbon pricing is co-constituted by ‘social’ and ‘natural’ agents. A neo-Polanyian perspective involves seeing markets as always, already embedded in political institutions and socio-ecological relations. If we take this as our starting point, then the would-be successes and failures of any environmental reform must be understood with regard to the political regulation of markets involved (not a falsely demarcated set of ‘market’ relations) and the distinct socio-ecological phenomena involved.

The creation of carbon markets entails mutual influence and dialectical tension between social systems and material nature. What’s more, the distinct biophysical characteristics of some commodities can render them ‘uncooperative’ to new attempts at pricing, or even full commodification (Bakker, 2005; Bumpus, 2011). Whatever the outcomes, new regulatory arrangements and commodity forms are subject to conflicts and contradictions. The empirical question is what forms do these take? In the case of cap-and-trade and offset schemes, the unique contradictions of these reforms can only be truly understood in context, where the distributive impacts and unruly contests that result from carbon pricing experiments can be documented. Four case studies are used to illustrate the institutional complexity and distinct biophysical characteristics dynamically involved in carbon market creation, re-regulation, and sometimes failure.

The chapter proceeds as follows. The first section considers carbon offsets in rural sectors, in Indonesia, and in Australia. Efforts to develop land carbon offset schemes actually precede the institution of a national ETS (see chapter 3). The second section looks at Australia’s electricity and mining industries, highlighting the pre-existing and ongoing issues of inefficient and socio-ecological impacts in these sectors. All of these issues have socio-political implications, in terms of the actors and identities mobilised in these areas of concern, but also the broader normative implications of the substantive issues raised here.

Putting a price on land carbon sinks

Terrestrial (land-based) carbon offsets are property rights generated from projects that either reduce greenhouse gas emissions from activities that deplete forests and other carbon rich forms of land, or projects that enhance carbon stores in land ecosystems through changed land management practices. Terrestrial offsets face considerable challenges in regard to the production of a reliable commodity form. In many respects, Karen’s Bakker’s (2003b) term ‘uncooperative commodity’ holds for land carbon

offsets. Scientists tell us that the terrestrial carbon cycle is very dynamic (Steffen, 2013). The comparatively static idea of carbon ‘sinks’ are an artefact of international climate law. Sinks are defined in terms of domestic territory, but at the same time are de-territorialised through the creation of globally tradeable offset credits (Löwbrand & Strippel, 2006). Terrestrial carbon is difficult to calculate, and it is even more difficult to ensure carbon stores are ‘permanent’ over time.

Problems stem from the reversibility (lack of permanence) of terrestrial emissions reductions; the uncertainties in land ecosystem science; and a range of governance issues, from the local political economy of implementation to global coordination of the multiple offset initiatives already underway. A significant problem for including land sectors into compliance with an ETS like Australia’s is the sheer number of businesses that need to be regulated (Dore et al., 2014). The immediate sources of land carbon emissions are far more dispersed than they are in energy sectors. I argue here that because the diversity of rural social relations and the terrestrial carbon cycle is so complex, the standardisation, individuation, and alienation processes necessary for viable carbon market institutions are proving unsuccessful. These issues are also relevant to the DAP.

Recognition of regulatory difficulties is commonplace amongst all types of actors engaged in the governance of the land carbon offset programs, who frequently invoke the idea of ‘learning by doing’. There is a reflexive orientation particularly visible in forest carbon governance, where acceptable outcomes are negotiated in the context of inevitably incomplete success (Jessop, 2003; Malpas & Wickham, 1995). Reflexivity involves using a variety of tactics and strategies to reduce the likelihood of failure. There is a kind of reflexive irony behind the practice of land carbon offsetting. Jessop (2003) defines self-reflexive ‘irony’ as recognition of the likelihood of failure whilst proceeding as if success were possible. It involves acting in good faith, seeking to involve others in the process of governance.

The state remains central to the logics of land offset governance, albeit through networked activities of public and private actors often working across territorial borders. Australian Federal government agencies have advanced a concerted effort to secure the expansion of international climate policy to terrestrial carbon offsets in its UN representations, its climate aid program (the *International Forest Carbon Initiative*), and a domestic carbon offset policy in the land sector (the *Carbon Farming Initiative* (CFI)). These actions preceded the national compliance ETS legislated in November 2011, and have a clear purpose in legitimating the expansion of climate governance jurisdictions to land ecosystems in the Asia-Pacific and rural Australia.

I demonstrate here that a ‘learning by doing’ approach to offsetting serves the state’s political ends. Reflexive experimentation by networks of agents diffuses responsibility for failures that occur long after the state claims legitimacy for acting on land carbon. Over time, however, the complications of land carbon governance persist, and hope for land carbon sinks as source of responsibility displacement is placed into political question.

The legitimacy and viability of terrestrial offsets has waxed and waned over the last six years. At present the international consensus over a new form of terrestrial offset called REDD has stalled. In the midst of this political landscape Australia’s trial offset

programs in Indonesia and PNG have disappeared, and the planned link between Australia's ETS and REDD offsets is on the backburner. However, the domestic 'carbon farming' program has moved ahead, creating carbon offset credits for firms to purchase in the fixed price period 2012 to 2014 when the scheme was repealed. The CFI was a means to trial novel land offset methods that align with Australia's preference for extending definitions of what constitutes REDD+ to a broader set of land management activities.

There are mixed signs about the viability of terrestrial offsets in Australia's climate programs. Below I outline the trials and tribulations of Australia's land offset pilots, highlighting the failures of governance. Finally, there are public policy concerns relating to broader distributive implications of these efforts to price land carbon.

Forest carbon in the Asia-Pacific

Deforestation and degradation are significant forms of environmental change with impacts including biodiversity loss, reduced water table levels, increased rates of fire, soil erosion, decreased cultural and socio-economic stability as well as contributing to global climate change. Deforestation and forest degradation account for between 12-20% of anthropogenic greenhouse gas emissions (IPCC, 2007; van der Werf et al., 2009).

The human practices behind it have complex political economic causes that vary across locales. Key proximate factors causing deforestation and forest degradation in the Asia-Pacific are commercial logging and agricultural expansion. These are driven by increasing global demand for timber, biodiesel, foodgrain and cash crops such as rubber, sugar cane and coffee (Geist & Lambin, 2002; Wertz-Kanounnikoff & Kongphan-Apirak, 2008). Knowledge about these dynamics is incomplete (Geist & Lambin, 2002). Further, unclear resource rights, land tenure, and weak law enforcement contribute to deforestation, and hinder the success of sustainable forestry programs in postcolonial nations (Corbera et al., 2010).

Indonesia and PNG are now currently host to large tracts of intact tropical forest. These remaining forests have emerged as new frontiers in a regime characterised by a frantic search for 'least cost' solutions to global climate change. The political and ecological importance of the Asia-Pacific region to the climate regime is widely recognised (ADB & RECOFTC, 2010; FAO, 2010). A hive of activity in the region on a number of institutional fronts took off over the last decade in anticipation of the prospect of 'least cost' abatement through REDD offsets. The political processes behind REDD have moved at great pace, on multiple scales and through politically and ecologically diverse sites (R. Pearse, 2012).

The Australian government has been one of a number of state funders behind forest carbon experiments. In 2007 a report of the Howard government's Emissions Trading Taskforce proposed offsets from REDD in the Asia-Pacific were a means to reduce abatement costs. The group of senior public servants and industry representatives recommended that 'an integral part of Australia's international climate change strategy should be to develop the elements of a future Australian approach to international offsets' (Australian Government, 2007: 111). Aligned with this strategic intent, an aid

program to develop REDD demonstration activities were undertaken, first by the Howard government, then the Rudd government (see chapter 3).

The local situation for Australia's flagship REDD pilot was a case of failed development. The *Kalimantan Forests and Climate Partnership* (KFCP) was located at the site of the former Mega Rice Project, an attempt to convert one million hectares of peat swamp forest into rice paddies in 1996-1998. It was a failed attempt at self-sufficiency under the Suharto regime. The Mega Rice project created 4,600 kilometres of water channels, removing approximately 500,000 hectares of primary peat swamp forest and causing major fatalities in orangutan and other species. The KFCP aimed to preserve 70,000 hectares of peat land forests in central Kalimantan, and re-flood 200,000 hectares of dried peat land, and plant up to 100 million new trees on rehabilitated peat land for conservation purposes.

The *Indonesia-Australia Forests and Climate Partnership* (IAFCP) involved a roadmap for carbon market participation that planned Indonesia's participation in the voluntary carbon market before integration into the compliance regime anticipated to replace Kyoto Protocol (DCC, 2008c). Credits from the KFCP were cited as a possible part of this plan (DCC, 2008c: 6). Australia and Indonesia refer to this program when they express their preference for marketised REDD to the UN climate negotiations (UNFCCC, 2008). Early on, BHP was an initial partner in the project, but their affiliation became ambiguous. A second pilot programme was planned for Sumatra trialling soil carbon methodologies (Wong, 2010), but it never eventuated.

The program involved numerous intermediaries in a heterarchic network. Whilst the IAFCP was a joint program of AusAID and the Department of Climate Change and Energy Efficiency (DCCEE), its operations were contracted out to a consultancy firm Aurecon (IDSS). The NGO partners employed for program activities include: Palangkaraya University, Wetlands International, BOS, CARE, and WWF. The World Bank acted as a financial intermediary for \$8.4 million to provide 'performance based payments' to local participants in the KFCP. The payments were designed as 'input' and 'performance based' initially and planned to move to be 'outcome' based: 'Once the project is sufficiently advanced, payments will be set on an outcome basis so that they will be commensurate with verified reductions in greenhouse gas emissions.' (World Bank, 2010: 2).

On the whole, the plans for extension of the carbon markets into REDD offsets were restricted by a number of enduring conflicts. The AusAID/DCCEE partnerships with the PNG and Indonesian governments have faced significant problems. The IAFCP faltered, with problem arising with the Kalimantan pilot, and the planned Sumatran pilot was delayed, then shelved. The Australian-PNG Forest Carbon Partnership is halted indefinitely in response to controversy surrounding alleged fraudulent activity by the national agency governing REDD+ and Australian carbon trading firms (Greenpeace, 2010b; Gridneff, 2009).

The Kalimantan REDD project illustrates the compounded failures playing out in the endeavor to establish a market in terrestrial offsets. In a study of the KFCP, Erik Olbrei and Stephen Howes revealed that the environmental targets for the project were quietly downscaled since the project started and numerous problems have emerged (Olbrei & Howes, 2012). No public announcement was made to reflect the fact environmental

targets were not met. In turn, the hopes of producing offset credits outlined in the Indonesia-Australian government carbon market roadmap were not realised.

More fundamentally, plans to rehabilitate the Ex-Mega Rice Project site remains an acute issue. There are longstanding problems with the social impacts of failed development projects, and ongoing contention over palm oil, coal mining and insecure tenure in the region (Galudra et al., 2010). Below is a summary of the key issues raised:

1. The design of the KFCP project as a carbon offset to compensate for fossil fuel combustion and the use of Australian aid money to make the case for market-based REDD in the UN climate negotiations (Goodman & Roberts, 2009).
2. The project's focus on small scale agriculture does not address drivers of deforestation in Kalimantan (which are mining, palm oil plantations and logging) (YPD, 2011).
3. Community concerns that the ways the KFCP project is being implemented did not recognise customary Ngaju Dayak wisdom and or local initiatives to rehabilitate the area and livelihood activities (YPD, 2011).
4. Free and Informed Prior Consent was not being realised (FPP et al., 2011).
5. Recognition and clarification of land tenure is not seen as a necessary precondition for this project in project documents (R. Pearse & Dehm, 2011).
6. The project has created conflict and confusion among members of the community (Karben et al., 2012; Surbakti, 2012).³⁰

Local, national and international civil society groups have waged opposition to the project. The unruly contest reflects the troubles associated with attempting to construct a reliable incentive for carbon sequestration without addressing the underlying political economic drivers of deforestation and poverty in regions like Kalimantan.

In this case, the Australian government was moved to respond to issues raised, illustrating that the state retains unique responsibilities for managing failures of carbon pricing governance. In response to criticism over the plans to create international credits, the Australian embassy replied that the government 'will not receive any tradable carbon credits from the project' (Australian Embassy Jakarta, 2011). Other elements of contention were managed by NGOs administering the program. The KFCP project developers (NGOs working for Aurecon) instigated a livelihood program in response to the critique from local communities that their contribution to sustainable land use was ignored in the project design (3). For a time, the livelihood program itself became a source of conflict (6).

All in all, there was limited accountability from state agencies. For instance, an independent review of the Indonesia-Australia partnership was publicly released only after a report on the programme's problems was raised publicly by researchers at the Australian National University (Olbrei & Howes, 2012). When explanations are offered, the failure to realise the initial goal was implicitly displaced to the governance deficits of Indonesia. When answering questions from the Greens about the apparent failure of

³⁰ See the REDD-Monitor for coverage of events.
<http://www.redd-monitor.org/category/countries/indonesia/>

the project in a Senate Estimates Committee, DCCEE Department Secretary Blair Comley stated:

I think the issue that has been found in Kalimantan has essentially revolved around the fact that land tenures issues have been more complicated than first thought.. What does it mean for REDD? I think it means that until such time as further work on those land tenure issues is resolved, REDD will take longer than first thought. That is the principal reason. (Comley, 2012: 102)

This reflection on the failure of the program is at odds with the original Project Design Document, that stated, because land tenure was so difficult to resolve, the project itself could act as an ‘instrument of change, where community management rights are first given to local people in a step-wise process to full land tenure’ (Australia Indonesia Partnership, 2009: 19). In August 2013 the KFCP was quietly shelved and the entire IAFCP came to a close in July 2014.

Since then the LNP government has dramatically reduced aid funding placing longer term Australian funding for land rehabilitation or avoided deforestation in Indonesia off the cards. However, there is one signal that the Australian state retains its interest in global forest carbon sinks. When in opposition, LNP said it would pursue something that sounds like REDD in the UNFCCC.

Nothing would do more to rapidly decrease the risk of climate change than a major plan to protect global rainforests. A Coalition Government would therefore seek to include rainforest protection within current and future international agreements. (Hunt, 2013a)

There are no substantive signs, however, that the government will return to ‘learning-by-doing’ forest carbon exercises like the IAFCP.

The viability of REDD requires at least a more sustained approach to finance than the Australian government offered. All aid budgets are subject to political changes. In this case, the waning focus on carbon pricing has contributed to the discontinuation of REDD. The IAFCP illustrates that marketised climate governance is not easily adapted to a complex set of socio-political issues visible in postcolonial rainforest nations like Indonesia and PNG. The hopes for quick transition to producing carbon offset credits appear utopian in hindsight. More generally, project-based REDD is a blunt instrument for reform, when there are ongoing structural issues surrounding land tenure and resource rights in postcolonial nations. And the problems of legitimacy this case study illustrates are not easily resolved by the state, or implementing organisations. Rather, the outcome is a very quiet process of downscaling action, and silence from the state about its original ambitious carbon offsetting goals.

Carbon farming in Australia

The Australian effort to demonstrate terrestrial offsets also extends to the domestic agricultural and forestry sectors through the CFI offset program. After concerted lobbying efforts coordinated by the peak industry group the National Farmers’ Federation and backing from the Liberal/National coalition agriculture was removed as an industry with obligations to reduce emissions under the CPRS. In lieu of compliance obligations, the agricultural producers can now opt in to a voluntary terrestrial offset

scheme called ‘carbon farming’ (see chapter 4). The CFI is the world’s first national offset scheme to focus on agriculture and forestry sectors.

Forestry and land clearing for agriculture has driven considerable environmental change in Australia. As a result of colonial expansion since the late 18th and 19th centuries, nearly 40 per cent of Australia’s forests have been lost, particularly on fertile coastal land cleared for agriculture and urban development. The remaining native vegetation is highly fragmented (see Bradshaw, 2012). Agriculture and forestry dominates land use across the Australian landscape, taking up 60 per cent of the continent (4 per cent cropping and 56 per cent for livestock grazing) (Longmire et al., 2010).

Sixty per cent of agricultural commodities produced in Australia are exported (NFF, 2012). Combined, agriculture, forestry and fishery industries contribute between 2 and 3 per cent of Australia’s GDP. Growth in the farm sector has been steady, rising at an annual rate of 2.8 per cent between 1974-75 and 2003-04. Since then growth has slowed to 1 per cent per annum (NFF, 2012). Woodchips from native forests have been the main commodity produced from Australia bushland. In recent years a major shift has occurred in the Australian forestry industry. Logging of native forests has more than halved and plantation hardwood production has more than doubled between 2003-04 and 2012-13 (Arup, 2014). Competition from Vietnam, Thailand and South America combined with the high Australian dollar (a product of the mining boom) and falling commodity prices contributed to this shift.

Contradictory policies on forestry and land clearing have been in place for most of the 20th century in Australia. Conservation measures existed alongside programs that promoted deforestation (AGO, 2000; Macintosh, 2012). In the 1980s regulatory change occurred in South Australia and Western Australia, and the Federal government removed tax deductions associated with land clearing and launched voluntary programs to incentivise changed land use practices and tree planting. However, these policies did not achieve much.

A political turning point came in 1995 when the NSW and Queensland State governments introduced policies and then law aimed at stopping the broad-scale clearing of native vegetation (Macintosh, 2012). There was a decentralisation and hybridisation of land management regulation through the 1989 Landcare initiative and Regional Forest Agreements produced for all forested regions between 1992 and 2000 (Lane, 2003; Lockie, 2000). It is commonly claimed that these laws led to significant reductions in LULUCF emissions (Garnaut, 2008a: 535). However, Macintosh (2012: 175) argues that this is debatable because the data indicates that the impact on deforestation rates was negligible and there are ongoing issues of ‘under-investment in deforestation control, lack of capacity in regional and rural areas, and poor design and administration’. A better explanation for reductions in LULUCF is that the 1990s recession and 1991-95 drought reduced deforestation in agricultural areas. More recently, reforestation has also increased through plantations (DIICSRTE, 2013).

This brief summary of governance of land and forestry sectors highlights ongoing and diverse dynamics of change in the drivers of land-based emissions in Australia. The regulation of land use is complex, but what is clear is that placing compliance obligations on the agricultural and forestry sectors has proven both politically and

practically difficult. In lieu of this, a voluntary approach to land carbon offsetting has been developed.

The *Carbon Credits (Carbon Farming Initiative) Bill 2011* was legislated in September 2011. The CFI was a voluntary baseline-and-credit offset scheme which became linked to the national ETS in 2012. It covered a range of novel land management techniques in forestry, agriculture and waste sectors, using both UN-compliant methods to reduce emissions such as tree plantations, as well as wide variety of novel offset methodologies, including the application of biochar to soil and feral animal culling. The scheme produces offsets for both compliance buyers under the Clean Energy Bill and buyers in voluntary markets. Up to 5% of emissions units retired by firms with obligations under the ETS can come from CFI each year. Eligible units are called Australian Carbon Credit Units (ACCUs). Only Kyoto ACCUs could be used for compliance, non-Kyoto ACCUs could be sold into voluntary markets. From July 2015, there were to be no limits on the purchase of ACCUs.

The CFI produced moderate numbers of projects and credits between 2011 and 2014. The CCA (2014a) reports that there were 178 CFI projects as at 3 December 2014. Just under half of these projects (46 per cent) were produced from landfill and waste treatment projects, which created 61 per cent of ACCUs (p. 18, 20). A further 29 per cent of ACCU generated were from avoided deforestation, and savannah burning and reforestation contributing 4 and 5 per cent respectively. At 3 December 2014, 10.6 million credits had been issued, which equates to emissions reductions of, on average, about 2.5 Mt CO₂-e per year (CCA, 2014a: 24). However, additionality of projects remains a concern.

It is not likely that significant emissions reduction would have occurred as a result of the CFI, even if uptake had been higher. The process for determining the ‘additionality’ of CFI offsets is imprecise. Rather than involving a project-by-project assessment for additionality (as is done in the CDM), the CFI has set up a list of ‘positive’ activities which are unlikely to have occurred without incentive from CFI finance. These activities are assumed not to be common practice (Section 41 (3), Commonwealth of Australia, 2011b). The second test of additionality is that project activities are not subject to other Commonwealth, State or Territory laws.³¹ These activities are deemed to be automatically additional to business as usual. The Federal government removed rules to determine ‘financial additionality’ contained in the exposure draft. This was done in response to stakeholder complaints that the governance mechanisms for establishing additionality like those in the CDM were too onerous - they increase transaction costs and would limit the supply of credits into the market (Commonwealth of Australia, 2011d).

The impact of this decision and the ‘project-type’ framework is that non-additionality and carbon leakage is almost certain. This approach to regulating CFI projects cannot guarantee that offset projects would not have gone ahead without the CFI. Further, given that firms with obligations to reduce their emissions will be purchasing ACCUs to

³¹ The legislation does provide an exception to this. Section 41(4A) of the bill allows this requirement to be avoided by regulation.

compensate for their ongoing emissions, this presents the risk of producing a net increase of emissions. The CFI consultation paper recognised carbon leakage as a significant problem, but the issue has not been dealt with in the final legislation and regulations.

In addition, the CFI does not guarantee permanence of bio-sequestration projects. Sequestration projects are considered permanent if it is retained for 100 years (Section 86, Commonwealth of Australia, 2011b). The first problem with this definition of permanence is that it is combustion of fossilised carbon that is being offset by CFI units. Fossil carbon has been produced over hundreds of millions of years in underground stores, and is therefore much more 'permanent' than 100 year sequestration in the more active land-water carbon cycle (Chapter 3, Climate Commission, 2011). Second, if an offset project is ruined, for instance due to fire, the CFI does not require landowners to relinquish the CFI credits generated. Instead a 5% 'risk of reversal buffer' applied to credits generated by each participant is assumed to compensate for this (Section 16, Commonwealth of Australia, 2011b).

Importantly, the CFI reflects the relevance of the state to carbon market governance, particularly in the search for land carbon sinks. Australia has had a national agenda to expand the types of activity as recognised under UNFCCC REDD and LULUCF rules for years. At the 2011 Asia-Pacific Carbon Trade Expo Clare Walsh First Assistant Secretary of the International Division of the DCCEE remarked to business actors that the CFI was 'the government thinking about REDD' (Walsh, 2011). The implication of her comments was that the CFI would model a broader range of land management techniques, the + under discussion in UNFCCC REDD+ negotiations.

There has also been an exercise in land offset demonstration in rural Australia, similar to the Indonesian and PNG forest carbon partnerships. The Federal government funded a flagship pilot programme to legitimate the CFI. RM Williams Agricultural Holdings purchased a pastoral property 130 kilometres from Alice Springs with \$9.1 million in funding from the Federal government under the *Caring for Our Country* initiative (plus the provision of \$4.5 million in shares in the project to the previous owners). The land was destocked in 2011. The Henbury project was planned as a pilot for CFI methodologies such as managing fire, water, weeds and feral animals.

The Managing Director of the project described the project as 'learning by doing' (D. Pearce cited in Burke, 2011).³² Like the KFCP, there were grand hopes that the Henbury carbon farming project would produce large amounts of CFI credits. The Department of the Environment, Water, Heritage and the Arts stated that carbon credits generated from the project could be bought with state funds under the \$250 million Non-Kyoto Carbon Farming Initiative Fund announced in the CEF (Burke, 2011). A consortium called Australian Carbon Rangeland Enterprises managed the Henbury project. News Corp invested in the consortium among others in 2011, and a carbon offsets deal with Qantas was announced in 2012 (Liston, 2012).

³² No relation.

A combination of developments undid the Henbury carbon farming project, including allegations of secret shareholdings and dishonest conduct (Cranston, 2014; Cranston & Callinan, 2014). The Henbury project was also met with resistance from the indigenous traditional owners and the cattle industry. Traditional owners signalled their longstanding interest in native title and commercial rights over the land (Brain, 2013a; CLC, 2013). Since 1974, the Central Land Council has been working with traditional owners who want to buy the cattle property since 1974. They were unhappy with the sale of the land to RM Williams in 2009 (Curtain, 2011). The Northern Territory Cattlemen's Association was worried that the destocking of the property set a dangerous precedent of displacing food production for carbon schemes (ABC, 2011a). The Northern Territory government argued that the project needed, and did not have, a non-pastoral use permit from the state Pastoral Land Board (Brain, 2013b). These dynamics of contention confirm Cooper and Rosin's (2014) findings that that market-based emissions regulation has failed to cultivate new 'environmental subjectivities' among NZ pastoralists. Instead, existing 'unruly' social relations in rural communities highlight cultural and political dynamics that market instruments on their own do not address.

There were doubts about the integrity of emissions abatement techniques and commercial viability of CFI carbon credits, which ultimately failed to gain accreditation through the National Carbon Offset Standard (Brain, 2011, 2012; Brann, 2013; Curtain, 2011). The project went into receivership, was sold to a pastoralist, and subsequently restructured to re-introduce cattle at Henbury station (Brain, 2013b; Jones & Brain, 2012). One Liberal Senator called for an inquiry into this project after revelations that the government lost money from the project (Cranston & Callinan, 2014), but no inquiry ensued. Again, the Australian federal government announced ambitious goals of land carbon sequestration, and any concrete lessons for public agencies to learn about developing and governing new markets for land carbon go quietly under the radar.

The limited critical scrutiny into the Henbury pilot in parliament is perhaps because the CFI became the central fund for land-based emissions reduction programs under the LNP government's DAP. The *Carbon Farming Initiative Amendment Bill 2014* passed in the Federal Senate in October 2014. The legislative gives effect to the Emissions Reduction Fund (ERF) that transforms the CFI offset scheme into a competitive grants scheme, using existing methodologies as well as expanding to the energy sector.

The LNP has stressed the future importance of soil carbon sequestration methods in its DAP, forecasting that the ERF would fund up to 85 million tCO₂ abatement per year (LNP, 2010). This forecast is equivalent to 61 per cent of total emissions abatement to 2020. However, evidence suggests the potential for viable abatement though soil carbon is limited (Lam et al., 2013). The questionable prospect of novel techniques to create 'carbon sinks' continues to be pursued by the state, and experimented with by networks of entrepreneurs and experts.

Australia's energy markets and carbon pricing

Australia's domestic energy markets and industrial energy users are the targets of the ETS that was instituted between 2012 and 2014. It is crucial to understand these sectors in their own right, in order to consider the substantive and socio-political outcomes of carbon pricing. The governance of Australia's energy sector has shifted significantly in the last twenty years (see figure 6.2), at the same time as Australia has experienced a

major energy export boom that has peaked and troughed, engaged in a long climate policy debate, and adopted successive initiatives to commercialise, then privatise, electricity assets.

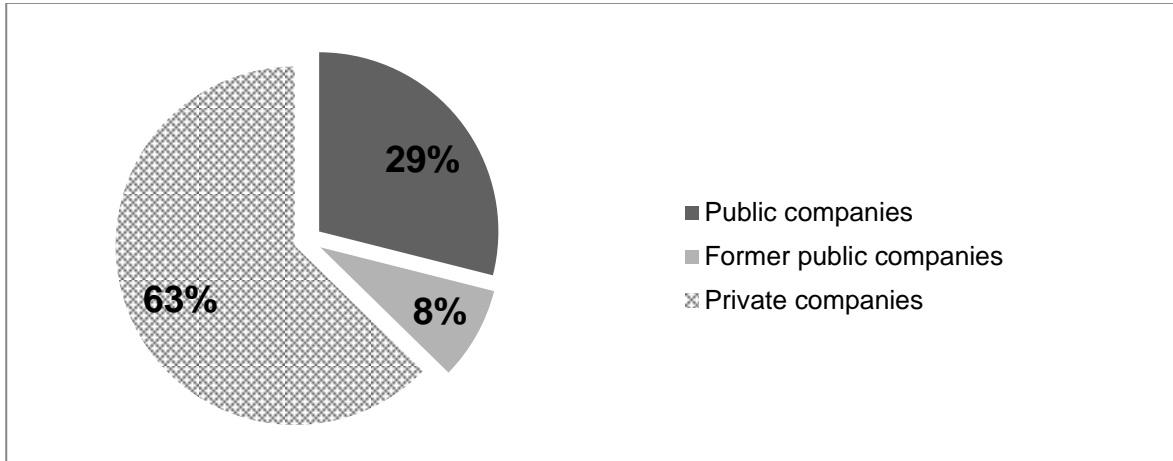


Figure 6.1 Total emissions covered by ETS by company type 2013-2014

Source: (Liable Entities Public Information Database (updated 23 January 2015), Clean Energy Regulator, 2014)³³

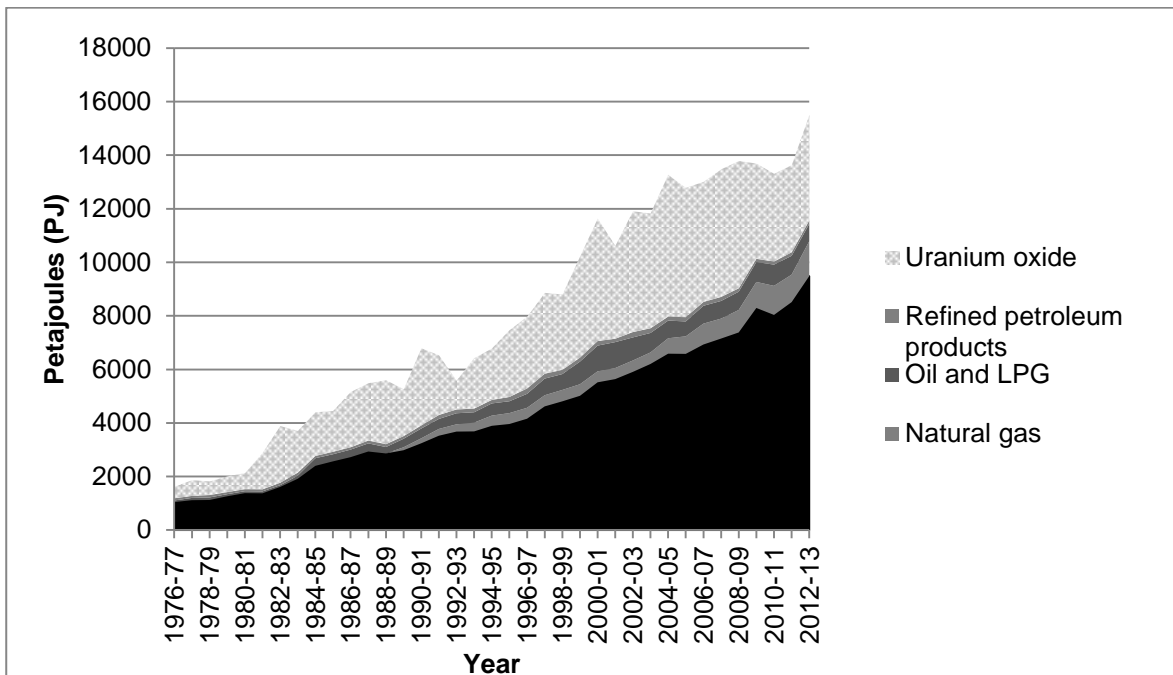


Figure 6.2 Energy exports by fuel type, 1976-77 to 2012-13

Source: (Data sheet figure 8, BREE, 2014)

³³ Emissions at parent firm level were calculated, and then attributed as a private, public, or formerly public company. Any instances of part ownership were divided on a proportional basis.

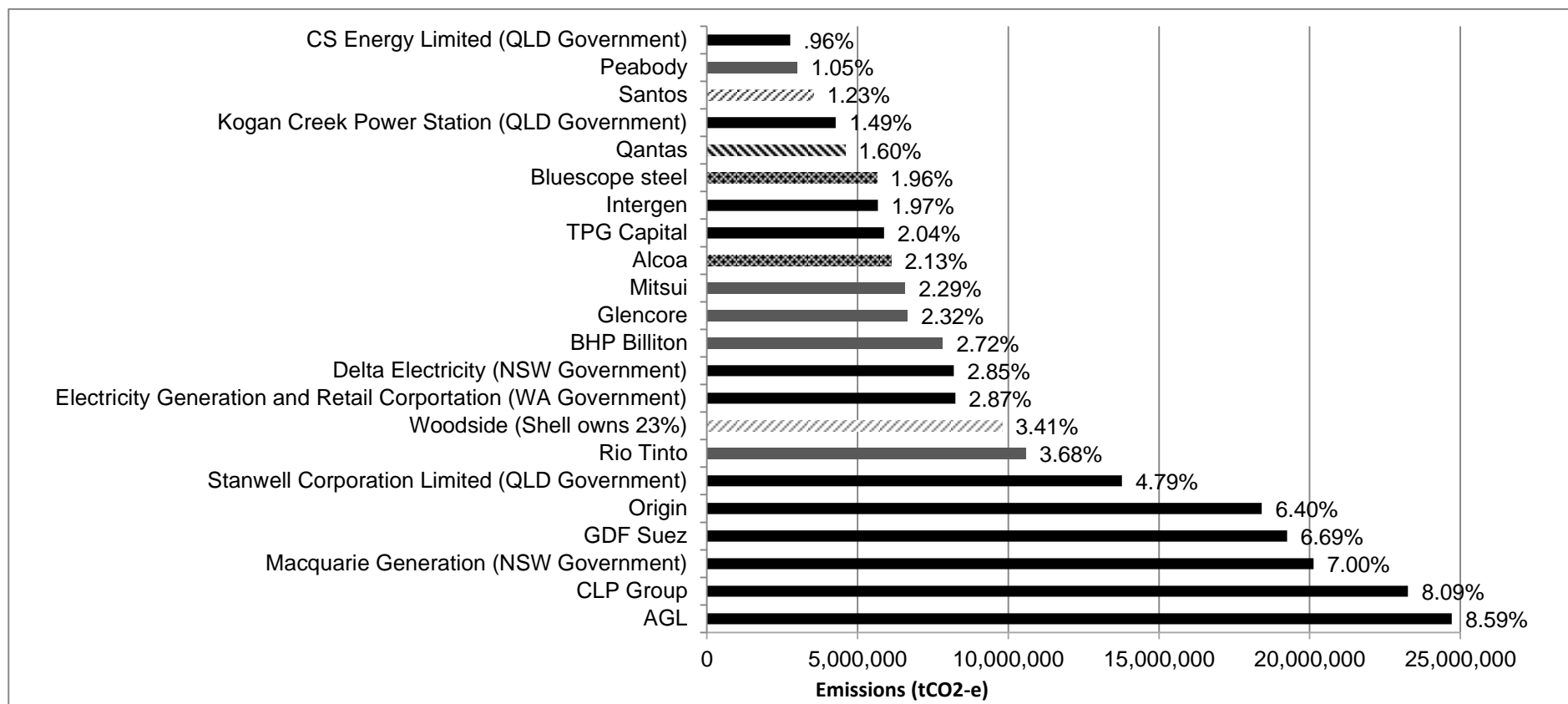
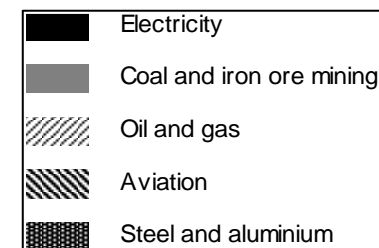


Figure 6.3 Scope 1 emissions for 22 highest emitting firms participating in the ETS

Source: (Liable Entities Public Information Database (LEPID, 26 July), Clean Energy Regulator, 2014)³⁴

³⁴ Emissions were calculated by tracing utility level emissions data from the LEPID 2013-2014 to parent companies and adding them up.



Domestic energy consumption is the focal point of any national climate policy. The electricity sector accounted for the majority of emissions covered under the carbon price that ran 2012-2014. Electricity greenhouse gas emissions are the largest contributing factor to Australia's high carbon footprint. Thirty four per cent of Australia's overall emissions come from electricity generation, and emissions from this sector have grown faster than any other sector over the past two decades (DCCEE, 2012b). Mining and heavy industrial users (e.g. steel and aluminium) are the next largest emitters.

The top ten corporations and governments are responsible for close to two-thirds of the emissions covered by the carbon price. They were, in order: AGL, CLP Group (Energy Australia), the NSW Government (Macquarie Generation),³⁵ GDF Suez, Origin, the Queensland government (Stanwell Corporation), Rio Tinto, Woodside, the WA Government and BHP Billiton. In electricity generation, over half of emissions covered by the carbon price come from 20 large coal-fired power stations in five regions within NSW, Queensland, Victoria, and Western Australia. The remaining large emitters are mining, manufacturing and aviation firms (see figures 6.1 and 6.3).

The concentration of emissions at firm level for utilities operating in Australia mirrors the international trend. Sixty three per cent of cumulative worldwide emissions of industrial CO₂ and methane have been traced to only 90 entities (50 investor-owned, 31 state-owned, and 9 nation-state producers of oil, natural gas, coal, and cement) (Heede, 2014). And only two hundred of the world's largest fossil fuel companies have investments in undeveloped fossil fuel resources equivalent to 1541GtCO₂ (Leaton et al., 2013).

This concentration in terms of ownership is an important part of the political economy of carbon pricing. Gareth Bryant observes that this invites us to rethink the climate issue somewhat; it dramatically simplifies what economist Ross Garnaut described as 'wicked' policy problem (Bryant, 2014; Garnaut, 2008b). For a start, it seems that the state still owns a considerable portion of power utilities creating emissions. Twenty nine per cent of emissions covered under the ETS were from public companies, and a further 8 per cent from formerly state-owned companies. The potential simplicity of governing energy producers invites us to inquire further into particular governance arrangements for these industries. I discuss the mining and electricity sectors in Australia below.

The mining boom and problems carbon pricing can't address

Australia's 'natural' comparative advantage is seen to derive from the continent's large subterranean mineral deposits, particularly iron ore, coal, uranium, and gas. Fossil fuels have been a key feature of the development of settler society in Australia. Apart from agriculture, the coal industry is the oldest major industry in Australia. In 1799 the first commercial mining venture in Australia began in Newcastle New South Wales (NSW). At the time, coal was exported to India (then Bengal). Newcastle has become the world's largest coal export port. In a century of booms and busts, two bursts of mining expansions occurred in 1970-1988 on the back of the 1970s oil shock, increased foreign

³⁵ The NSW government recently sold Macquarie Generation to AGL, making that firm the largest contributor to greenhouse emissions at firm level.

ownership, new and more efficient techniques, removal of export controls and increased Japanese demand (ABS, 2000; Gibson, 1990).

The most recent boom kicked off in 2004 in response to new demand from China and India (see figure 6.2). Mining investment rose from approximately 1% of GDP in 2004 (also an historical average) to 8% of GDP in 2013 (Downes et al., 2014: 8). Between 2001 and 2011, coal exports nearly doubled in volume and tripled in value (DFAT, 2011). Whilst the Reserve Bank of Australia observes that the boom has peaked, forecasting a significant reduction in investment, the Bureau of Agricultural and Resources Economics (BREE) anticipated continued growth in energy export volumes at 1.2% and 2.5% per annum for coal and gas respectively (Syed, 2014: 42, 44). This is typical of the Bureau and Federal Industry department, which has a reputation for talking up the prospects for energy export markets when other analysts are more circumspect (McCrann, 2013; Secombe, 2012).

The States have been supportive of the development of coal and gas mining in Australia, but not necessarily due to systematic or strategically considered direction in resource governance. In Australia the Crown owns nearly all minerals. In the 1980s State governments introduced legislation to establish that the States held the power to explore for and extract minerals on private land. Licences for exploration and mining are managed by State resource and planning departments, with additional Federal governmental oversight if the environmental impacts are of ‘national significance’ (EDO, 2014). State governments have facilitated coal and gas mining expansion. For instance, in 2011 the Queensland government set mandatory targets for increased gas-fired electricity.

The state’s role in enabling intensive mining development may not always be written into the objectives of State policy. It may come from a lack of codified goals. Following corruption findings in NSW coal allocation governance in 2013, the Independent Commission Against Corruption found that there is no overarching policy or plan for the development of coal and different State agencies which have contradictory roles in mine approvals (ICAC, 2013). In both NSW and Queensland, state support for fossil fuels is evidenced by the scale and number of new coal mines being approved (Greenpeace, 2013a).

There is also significant state support for fossil fuel capital in Australia, a recurrent but marginal, topic of political discussion. The ACF (2014) estimates that Federal budget subsidies between 2014-15 to 2017-18 amount to amount to \$47 billion. This is constituted by \$35 billion through tax expenditure (fuel and asset tax breaks) and \$12 billion as foregone revenue from the carbon price.³⁶ Analysis from The Australia Institute (TAI) indicates that approximately \$18 billion has been contributed by State governments over the last six budgets (Peel et al., 2014). This assistance comes in many forms, from direct payments, access to discounted state services (e.g. rail), or State funded infrastructure or mining projects that benefit the fossil fuel sector e.g. a \$76

³⁶ The OECD (2010: 7) defines a subsidy as ‘various types of policy-related transfers provided by governments and their agents, along with foregone revenues, (and) the more common notion of a subsidy as a direct government payment’.

million coal project in NSW that the State government originally developed as secure supply for soon to be privatised power stations. Assistance is also provided to domestic and overseas fossil fuel exploration projects through the Australian Export Finance and Insurance Corporation (\$374 million between 2010 – 2013), and \$16 million through Australia's shares in the World Bank Group and the Asian Development Bank (Bast et al., 2014: 51-52).

Another key distributive dimension of the political economy of Australia's climate change contribution, is that the emissions from energy exports now exceed the national emissions year on year (BZE, 2014; G. Pearce, 2010a). That is, the embedded emissions in energy commodities exported from Australia are hugely significant, but they are not considered part of the 'national' contribution to global greenhouse gas emissions. The export market for coal and gas then is a vital global climate governance issue. However, because emissions are considered in terms of production only, the national responsibility for the emissions that flow from energy commodity exports is largely unregulated. Under the carbon price legislation, only fugitive emissions that occur at the sites of 'gassy' mines were subject to compliance obligations. Those emissions are a fraction of the 'global' impact of these commodities when burnt elsewhere.

There is a further set of political and socio-ecological issues that take us beyond the regulation of emissions, rather than the energy commodities in question. These issues are now salient after ten years of sustained political contestation over the mining boom in Australia. The socio-ecological impacts of mining expansion have been revealed to be much broader than the issue of greenhouse emissions. Food security, clean water, indigenous land rights, and democratic rights of affected communities are now the focus of a broadening politics (Connor et al., 2009). Flashpoints of conflict have ignited in a number of locations across the country where green field coal and gas projects have been proposed and developed. There has been a re-orientation of environmental and rural social movements as a result (see chapter 8).

There are regulatory and legal questions being raised in political debate that were never part of the purview of carbon pricing. Of course, the carbon price should not be assessed against goals it was never set out to meet, such as the 'local' land use conflicts playing out at present, and campaigners and policy makers alike often assert that carbon pricing was one part of the ideal 'policy mix'. However, more broadly, there are indications that climate policy undermines efforts to reform energy markets. For instance, overcompensation of energy-intensive firms under the CEF package (chapter 3) adds another source of state subsidy. In socio-political terms, the carbon price instrument as a hugely significant reform that consumed the nation while systemic issues of poor governance in the mining and electricity sectors (see below) played out. I argue in the final chapter that these issues appear to be giving rise to a different way of imagining the energy question, with different subjects and sites of conflict with the state playing out. In part, this shift in energy politics has occurred in the wake of carbon pricing failure.

Inefficiencies and inequities in the national electricity market

The political economy of the national electricity market has posed particular governance issues, which have become more intimately part of the conflict over carbon pricing. Studies of the political economy of Australia electricity sector reveal that governance

failure preceded the institution of carbon pricing (e.g. Chester, 2013, 2014; Quiggin, 2014a). Since the 1990s, the national electricity sector has undergone structural change. The shift has involved: commercialisation, corporatisation and gradual increase in private ownership across the States; changed regulatory arrangements; inappropriate patterns of investment; and higher consumer prices.

The electricity industry is often considered to tend toward ‘natural monopoly’, where a single firm or public institution undertakes electricity generation, transmission, and distribution. Over the last two decades the view that electricity is and should remain as a natural monopoly has been contested in favour of preferences for greater competition and less government involvement (Beder, 2003; Chester, 2007).

Advocates for an electricity industry restructure argued that private ownership would incentivise more efficient production. In 1993, the Keating government set up the National Competition Policy Review Committee to advise on changes to competition policy and changes to the *Trade Practices Act 1974*. The Committee advised that competitive conduct rules of the Act be extended to unincorporated businesses and State and Territory government businesses (Hilmer et al., 1993). In response to the Committee’s advice, the Council of Australian Governments in April 1995 adopted this advice with little public discussion. Large state-owned utilities in Australia were vertically integrated, except for NSW and Queensland, where distributors were nominally separate from generators (Diesendorf, 1996).³⁷

In 1998 the National Electricity Market (NEM) began operating in southern and eastern Australia (excluding Western Australia and the Northern Territory because of distance). The NEM is made up of a continuous time auction market operated by a private limited liability company, the Australian Energy Market Operator (AEMO). As the NEM was set up, States went about disaggregating electricity utilities, and a gradual process of commercialisation, corporatisation and privatisation.

The increasing global integration of Australia’s economy, through international trade, investment and finance, was critical in the restructuring of the electricity sector. Nearly 75% of the proceeds from privatisation came from foreign capital, particularly Asia (Chester, 2007: 986). Whilst private firm participation has been enabled, overall the electricity sector restructure has created the exact antithesis of the perfectly competitive

³⁷ In 1994 the Victorian Premier Jeff Kennett was one of the first movers among the state Premiers to privatise and disaggregate the electricity sector. The 1987-1991 recession had hit Victoria very hard, so more than \$20 billion in asset sales provided a source of revenue. Cahill and Beder (1997) also argue that the intellectual case for privatisation was provided to the Kennett government by Project Victoria, an initiative developed by business groups and right wing think tanks in Melbourne to promote comprehensive privatisation.

Privatisation has also been undertaken in South Australia. In 1998, the South Australian government began the process of privatising its electricity industry. In NSW and Queensland the picture is process is incomplete and contested. Sale of retail and generation began in Queensland in 2007 and NSW in 2010. Sale of the transmission and distribution sector is planned by the Coalition governments in NSW and Queensland. Half of the retail sector was sold in the ACT, and privatisation was defeated in Tasmania. There were 34 government electricity companies in 1990, and today there are 322 registered generators in the NEM (AER, 2014; NEMMCO, 1999).

market that was intended in the reforms (Chester, 2006). A small number of companies, including international corporations, continue to dominate generation capacity in the NEM. State-owned companies detached from previous State government monopolies dominate the NEM. They produce two thirds of NEM generation capacity (Chester, 2007, 2008). Because of the concentration in ownership, re-bidding rules in the market, and limited inter-regional connections (due to Australia's large geographical area covered) generators have been able to manipulate spot prices (Short & Swan, 2002) and drive up wholesale prices. Further, post-privatisation consolidation of ownership has occurred in the retail sector to common ownership in nearly 45 per cent of the NEM's generation capacity (Chester, 2006: 369).

A further contradiction of electricity industry restructuring pertains to productivity. Output per worker in the sector has fallen by 24.9 per cent between 1995 and 2012,³⁸ when it has increased by 33.6 per cent in the wider economy (Richardson, 2013: 7). One explanation offered by the Australia Institute is that the breakup of the industry into separate entities has led to the rapid increase of staff employed who are indirectly involved in energy production. Between 1997 and 2012, the number of managers employed in the sector increased from 6,000 to 19,000. The manager to worker ratio rose from 1:13 in 1997 to 1:9 in 2012 (Richardson, 2013: 8-9).

In the period since privatisation began, there costs of electricity have increased. Between 1995 and 2012, electricity prices in Australia increased by 170 per cent.³⁹ This increase is four times higher than the rise in consumer price index (CPI) over the same period (Richardson, 2013). Household electricity prices rose by an average of 10 per cent and industrial electricity prices rose by an estimated 15 per cent across the NEM, as a result of the carbon price (O'Gorman & Jotzo, 2014: 40).

The trebling of electricity costs is mostly the result of perverse incentives to build unnecessary new infrastructure. Rising network costs are by far the largest factor behind rising electricity prices at 68 per cent 2010-2011 (Garnaut, 2011b). In 2011 it was revealed that the reason for major electricity price rises was over-investment in transmission infrastructure in NSW and Queensland (Martin, 2011). Large amounts of capital have been put into upgrading transmission lines in the NEM under the assumption that demand for energy would increase. The NEM regulatory arrangements allowed transmission companies to borrow money to build the new infrastructure, and then pass on the estimated cost of repaying the loan to consumers. For instance in 2009, the national Australian Energy Regulatory (AER) allowed for NSW distribution networks to pass on the cost of capital to consumers at 8.78% per annum. This was assumed to be equivalent to private borrowing costs at the time, but in actuality the NSW corporation borrowed from State Treasury at rates of around 4–5% (Mountain

³⁸ This figure is for electricity, gas and water sectors.

³⁹ Increased prices have been highest in NSW and Queensland. In NSW the average annual household electricity bills more than doubled from \$1,013 in 2007-08 to \$2,073 in 2013-14 (NSW Auditor-General, 2013: 11). Fifty five per cent of that rise was due to increased costs for the network of poles and wires. The carbon price added approximately 16%. Since a peak in 2009, there has been a 4.3 per cent reduction in electricity consumption across the national electricity network.

cited in Hill, 2014). Between 2007–08 and 2010–11, electricity industry's profits rose by 67%.

The national AER has taken 34 cases over the investment allowance to the Australian Competition Tribunal, but 22 were decided in favour of the network companies (Hill, 2014). State-Federal government tensions are part of this story. In 2005, the Howard government created the AER in the name of reducing institutional complexity. However, part of the Federal-State government deal was that a new body made up of State Energy Ministers called the Australian Energy Market Commission (AEMC) would write the rules for the AER to enforce (Hill, 2014).

The over-investment in transmission infrastructure presents a systemic barrier to emissions reduction and renewable energy transition. This over-investment has occurred at the highest rates in NSW and Queensland, where State governments still own most of the generators, and illustrates that the source of inefficient and iniquitous energy governance is 'public' as much as it is 'private'. And there is an important implication here for the climate issue. Investments in transmissions reinforce Australia's centralised network of emissions-intensive coal-fired power generators. Thus, the recent major spending in this area disproportionately benefits the most emissions-intensive fossil fuel generators at the expense of competing renewable energy technologies many of which are not reliant on the electricity transmission grid due to their decentralised form (e.g. roof top solar).

The failures of energy governance are written into the law and regulation governing the NEM. There is an explicit contradiction in objectives between the electricity sector and emissions reduction which has become more pronounced since industry restructure. In contrast to legislation governing previously state-owned electricity companies and infrastructure, the National Electricity Objective governing the NEM currently does not include environmental protection. The 1992 National Grid Protocol first outlined this overarching goal 'to encourage the most efficient, economical and environmentally sound development of the electricity industry consistent with key National and State policies and objectives' (NGMC, 1992). However, the environmental objective no longer features in the responsibilities of electricity market regulators, the objective having been excised with the 2005 amendment to the *National Electricity (South Australia) Act 1996* (Stockton et al., 2009).⁴⁰

The Total Environment Centre (TEC) argues that the omission of environmental protection from the National Electricity Objective illustrates the institutional culture of externalising environmental issues (Wright, 2013). There is some evidence for this in the following quote from the AEMC Chairman in response to questions about his views on the potential insertion of an environmental objective in a Senate Select Committee.

⁴⁰ The current National Electricity Objective is to: 'promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to – (a) price, quality, safety, reliability, and security of supply of electricity; and (b) the reliability, safety and security of the national electricity system.' (Government of South Australia, 1996: 38)

The way I think about it is with a football team analogy: everyone on the team has the same objective; it is just that we have different positions and different roles... if the bonehead thinks that the five-eighth is not doing a good job, the worst thing he can do is try and do the five-eighth's job for him. Our role in relation to rules that relate to economic efficiency is part of one role in what people expect out of this sector. There are other manifestations of government that obviously deal with environmental issues in a systemic sense, such as climate change and, in a local sense, land use planning and emissions... You could make the same comment about suggestions around social objectives. Again, there are other parts of government that address that. (Pierce, 2012: 16)

Given the regulatory logic of the NEM outlined here, both the carbon price and the Renewable Energy Target (RET) are effectively treating a symptom of a larger 'structural flaw' (Wright, 2013: 5). Further, the absence of an environmental objective indirectly contributes to the recent roll back of energy efficiency programs, feed-tariffs and solar rebates by State governments who argued they were no longer necessary with the arrival of a national carbon price (*ibid.*; Edis, 2013). On top of this, generous compensation arrangements for the coal fired generators meant that the carbon price was unlikely to have achieved any significant reductions in coal-fired power (Christensen et al., 2012).

The electricity market has been shaped by pre-existing complex issues of governance failure, and in this context the effects of carbon pricing have been weak. Since 2009, demand for electricity has dropped, which is a departure from a century of increased demand. However the impact of the carbon price is secondary to other shifts. The three largest factors behind falling demand are 1) the impact of (mainly regulatory) energy efficiency programs, 2) structural change in the economy away from electricity-intensive industries,⁴¹ and 3) reduced consumption, particularly residential, due to higher electricity prices (Saddler, 2013).

O'Gorman and Jotzo estimate that on top these factors, the carbon price led directly to a 1-2 per cent drop in demand, and the cumulative reduction attributable to the carbon price was between 11 and 17 million tonnes CO₂ emissions (approximately 2-5 per cent).⁴² There are some limitations to substantive and political importance of this figure. The authors do not evaluate the interaction between carbon pricing and the rising electricity prices (O'Gorman & Jotzo, 2014: 3). The analysis uses price as a 'first order proxy for demand responses' (p. 16), meaning that price is assumed to be a cause of behaviour. However, in explaining changes in household demand, the authors comment on the novelty of this reform in terms of political salience and therefore heightened public awareness of the price rises (O'Gorman & Jotzo, 2014; Saddler, 2013). More generally, they note the carbon price was unlikely to influence energy investment patterns due to political uncertainty. To this I would add that the design of the ETS allowed far too many opportunities for offsetting to influence domestic energy markets

⁴¹ Notably the closure of a steelworks, aluminium smelter, and an oil refinery in the year 2011-2012.

⁴² There was some assistance provided to low- and medium-income households to offset the average price impact of the carbon price (Hatfield-Dodds et al., 2011). Most high-income households did not receive any financial assistance (Phillips & Taylor, 2011).

without significant re-regulation and normative shift away from the preference for international abatement shared by industry, the ALP, and advisors (see chapter 3).

The key point here, however is that the governance of electricity in Australia is highly inefficient and iniquitous. The failures of this system were not addressed by the carbon price, and climate policy debate distracted from political recognition and attention to pre-existing failures of governance in the electricity sector. Conservative opponents to the carbon price mobilised against it, claiming it was to blame for rising electricity prices. And in response there was a tendency for experts and environmental campaigners to engage in a narrow political contest over competing claims about prices at the margin (see chapter 8).

Conclusion

The case studies presented in this chapter illustrate that the turn to market mechanisms as a means to manage greenhouse emissions has evolved in ways that privilege land carbon sequestration techniques (REDD and CFI), whilst the fossil carbon burnt through energy production and consumption is minimally changed. This is in part due to the logic of regulating emissions, rather than the governance of energy industries more fundamentally. At the same time marketised climate governance has evolved, so have state reforms to facilitate the privatisation of electricity, and the scale of export-oriented coal and gas mining has trebled in Australia.

In light of the major inefficiencies and inequities that have developed in energy markets in particular, carbon pricing can be seen as very limited tool with which to begin an energy transition. Carbon trading is particularly problematic, in that it displaces the state's climate responsibility into other sectors and geographical sites. In the case of energy market governance, there are some more general issues at play. The issues surrounding trebling energy exports (greenhouse gases, as well as other social and ecological impacts) and mis-managed electricity markets are failures of governance. They are not 'market failures' in the sense that environmental economists propose. With these issues in mind, economic instruments effecting prices at the margin, whether it be a fixed carbon tax or ETS, are weak tools for reform.

This chapter has emphasised three general observations about the governance of carbon. First, institutions of carbon offsetting, emissions trading, and carbon taxes are instituted in a variety of contexts. In every instance of pricing carbon we need to ask what existing sets of commodities (e.g. timber products, electricity, textiles) are being re-regulated? What are the distributional and socio-ecological consequences of adding a carbon price to the governance of these commodities?

Second, I have observed that, contra to the claims of environmental economists, the issues contributing to emissions in industries subject to carbon pricing are not a simple matter of 'market failure' or 'state failure'. Rather, there are pre-existing failures of governance at play, where networks of private and public agencies are culpable for the historical decisions to extract and produce emissions-intensive resources in inefficient and unjust ways. Third, the distributional and socio-ecological impacts of pricing carbon must be understood with regard to this complexity.

In the case of terrestrial carbon offsets, the distributive strategy behind the search for land ‘carbon sinks’ is clear, and the socio-ecological outcomes have raised serious questions about the viability of land carbon offsetting. REDD emerged as a state agenda to send the national emissions reduction task offshore and the CFI was pegged as a further source of flexibility. The networked set of NGO, corporate and state agencies involved in the trial land offset programs illustrates the heterarchic logic of governance described by Jessop (2000). Australia’s REDD program, the domestic CFI, and now the DAP, all contribute to an ongoing experiment with terrestrial carbon offsets regardless of their flaws.

Both the Indonesian and Australian land carbon programs illustrate the difficulties in realising viable and politically legitimate governance for land offsets. Australia’s experiments in land offsetting illustrate that conflict between social and cultural rights with carbon property rights are unavoidable, ongoing difficulties in developing effective land sequestration methodologies, and more broadly, a tendency toward heroic claims about carbon sink capacity. As a result, compounded legitimisation crises will likely continue outside and within Australian borders, including through the current government’s DAP. The silence on lessons learnt and ongoing governance challenges on the part of Australian Parliamentarians and public servants is striking. This is likely to in part reflect the political use of land carbon as a displacement strategy. This agenda may be undermined in the future as it is revealed that land offsets are not ‘efficient’ in the neoclassic economic sense. If they are to work, they will be costly and complex interventions in rural social life in Australia and abroad.

Australia’s energy markets are a different picture. The sources of emissions are centralised into a small group of private and state-owned utilities, which implies the regulatory task of national emissions reduction could be relatively straightforward. At the same time, there are ongoing governance failures in mining and electricity markets that complicated question of effective carbon regulation. The mining boom has seen Australia’s energy exports treble, and the emissions related to these commodities when they are combusted overseas now exceed the national carbon footprint of Australia. Fugitive emissions are covered by the ETS, but the larger issue of the nation’s exported emissions goes unattended. This, of course, is a general problem of national climate policy and the production-based definition of emissions codified in the UNFCCC. However, the socio-ecological impacts of new coal and gas project in particular have seen new kinds of conflict emerge across the country during the carbon price debate. The ETS was never going to attend to the local and global impacts of this boom, and for this reason, I argue that carbon pricing has failed both substantively to address the concerns of environmentalists and their allies, who drifted away from the climate policy debate looking for a different kind of energy politics to progress action on fossil fuels.

Finally, the ongoing failures of governance in the national electricity sector reached a head during the carbon price debate as well. Before carbon pricing in Australia, a range of structural reforms created a situation of major over-investment by public network companies and price hikes have been most marked in States where generators are yet to be privatised. The inefficient and increasingly unaffordable price of electricity is a governance failure which cannot be attributable to carbon pricing. However, carbon pricing adds another layer to the cost of living stress, albeit a much smaller one to the impacts caused by mismanagement of the NEM. The carbon price and rising cost of

electricity became bound together politically, and as a result new lines of contention played out.

Looking at the dynamics of contestation, I argue in the next section that the governance failures associated with carbon pricing were targets of conservative resistance (chapter 8). Conservative opponents to the ETS for political advantage leveraged the failures of the electricity market. They also targeted the fictitious nature of international offsetting in their campaign to politically undermine the ETS. Meanwhile, environmentalists struggled to make a popular case for pricing carbon, and many turned their attention to the social and ecological problems associated with fossil fuels.

V *Contestation and competing imaginaries*

7 Populism and the techno-market imaginary

The politics of climate crisis in the late 2000s

Introduction

Contestation over carbon pricing is shaped by the material and symbolic power of agents engaged in political struggle. This final section (chapters 7 and 8) reflects on the semiotic content of contestation over carbon pricing in more detail. From here, I inquire further into the normative dimensions of the political contest using the concept of ‘economic imaginaries’ (Jessop, 2010; Levy & Spicer, 2013). Economic imaginaries are embedded in capitalist social organisation, its contradictions, crisis tendencies and dilemmas. This concept brings our attention to the normative features of economic life, which are in turn sources of continuity and change.

Semiotic analysis also enables additional interrogation of the failure to legitimate carbon pricing in Australia (see chapter 2). In the late 2000s, popular concern and support for climate action rose up the Australian political agenda, mirroring the experience of other countries in the North. The ‘techno-market’ imaginary was tested as a means to address these growing concerns among citizens and cohere support from a broader field of agents. The strength of a given economic imaginary is dependent upon ‘its appeal to the interests and identities of a broad range of groups, and its alignment with the material dimensions of the energy field’ (Levy & Spicer, 2013: 672).

Levy and Spicer argue that an economic imaginary only realises hegemonic status if semiotic and material relations are stabilised into a ‘value regime’ (pp. 672-675). It is not enough to negotiate support from dominant actors; an economic imaginary must infuse into everyday life. Further, economic imaginaries operate in dialectical relation with economic structures. In this case, the contradictory value relations underpinning

marketised climate governance have shaped and been shaped by political contestation over the 'techno-market' vision.

This chapter and the next focuses on three competing imaginaries, exploring the genres (ways of acting), discourses (representations), and styles (ways of being and identity) associated with them (Jessop, 2010). Two additional counter-posing imaginaries are detailed in the next two chapters. In chapter 8, I discuss the 'fossil fuels forever' imaginary which expresses developmentalist values and libertarian philosophy. Looking at shifts in environmental movement mobilisation, and I propose that a nascent 'energy justice' imaginary is visible, which is based on the social movement values of democracy, environmental protection, and just transition away from fossil fuels.

This chapter returns to the failure of the CPRS.⁴³ It considers the momentary sense of political possibility stemming from globalising recognition of climate crisis in the lead up to the UN meeting in Copenhagen 2009 and the broader field of contestation over the meaning of the climate issue for market society at this time. This moment of course, ended with the collapse of popular political efforts toward urgent and deep emissions cuts. Overall, the heated debate over carbon pricing in Australia revealed political limitations in the techno-market imaginary as a normative political response to the public's concerns about climate change. The experiment in a new popular climate action movement in the mid-2000s was also limited.

The first section deals with critical interpretations of populism in climate politics. Populist genres of progressive political action were common in the 2000s, evidenced in discourses and media that evoked worries about apocalyptic futures under climate change. The tendency to speak in universalist discourses of moral responsibility and carbon governance have been related developments in the cultural political economy of climate change in Australia.

I detail the play between these elements of climate politics in the late-2000s. The second section argues that the experiments in a popular 'climate action' movement in Australia were mobilised by a sense of 'climate emergency' but they were also a search for an alternative economic imaginary capable of popularising the dramatic energy transition required if deep cuts to greenhouse emissions are to be made and 'dangerous' climate change avoided. The movement subsided in the face of political inertia, some internal disagreements, and difficulties realising popular influence.

The third section analyses political representations of former Prime Minister Kevin Rudd and seeks to demonstrate that Rudd's populist performances stood in tension with the government's preference for marginal adjustments to the market through carbon pricing and technology. Moreover, his technocratic and liberal internationalist style lost

⁴³ I previously described the unravelling of the 2000s 'carbon compromise' in Australia (chapters 4 and 5). The global financial crisis and industry campaigns for exemptions and carbon rents challenged the political and substantive viability of the carbon price. At the time, the conservative LNP fragmented, but then rallied in opposition to the ETS signalling allegiance to agricultural as well as energy-intensive fractions of capital. Environmentalists and the Greens were also opposed on the basis that the ETS did not address the climate crisis.

political appeal over time, particularly with the collapse of the Copenhagen negotiations for a post-Kyoto deal. Finally, I introduce the conservative opposition that shifted direction in this period, to identify as a counter movement against progressive technocracy. The Institute of Public Affairs (IPA) is discussed as an example.

Populism, technocracy and the climate emergency

As noted in chapter 2, there is a tendency among critical scholars to eschew the ascendance of carbon pricing as evidence of a ‘post-political’ condition, where expert elites are elevated to the position of carbon managers outside the democratic sphere (Swyngedouw, 2010). This critique implies that there is mutual reinforcement between apocalyptic discourses anticipating climate-induced social breakdown, genres of political action that focus on ‘carbon’ as an abstract political enemy, and techno-managerial climate governance. In other words, Swyngedouw’s critique of climate politics is that these social practices bleed into one another and stymie democratic deliberation and the potential for a more transformatory politics.

Swyngedouw argues that climate populism is socially homogenising, in that inequalities of climate change risks and benefits fall out of political view. Populism does not identify an agent of change. Rather the signifier CO₂ covers over power relations via its production as a commodity through the global ‘techno-managerial machinery of post-democratic governing’ (Swyngedouw, 2010: 220). By ‘post-democratic governing’ Swyngedouw means the reduction of decision making into issues of expert administration rather than political position. Politics is staged as consensual management and actors attempt to smooth over and displace conflict. I emphasise the term attempt here, because contestation over the risks and spoils of carbon pricing cannot be avoided, or neatly resolved.

Populism is a style of argumentation, not tied to a particular set of views or ideology. Broadly speaking, populist discourse in contemporary Western democracies is defined as: ‘an appeal to ‘the people’ against both the established structure of power and the dominant ideas and values of the society’ (Canovan, 1999: 3). Populism seeks to create a split in political contestation between ‘the people’ and ‘the elite’ (sectional interests and opinion formers). Laclau (2005) argues that populism has the effect of cohering disparate political demands into an ‘equivalent chain’ of diverse political positions and demands through the creation of ‘empty signifiers’.

So, populism can neglect to name political subjects, in favour of ‘empty signifiers’ like ‘neoliberalism’ (Bryan, 2010) and ‘climate change policy’ (Badiou, 2005; Swyngedouw, 2010: 224). The political effect of populism can be a failure to pursue more nuanced understandings of crisis. In his work on financial crisis, Bryan argues that left populism tends to focus on staid moral judgments of ‘casino capitalism’ and ‘unregulated’ financial markets, whilst not pursuing more critical understanding of the historical developments that led to the contemporary issues for labour (households) in housing and superannuation markets.

The schematic critique of populism is compelling, and as stated in chapters 1 and 2, it must stand up as an explanation of domestic climate politics through empirical investigation. We should ask whether and how populism aligns with a techno-market imaginary. And we should be open to the possibility that these features of climate

politics may be in tension with one another i.e. not part of a fixed political field. There is some evidence from Australia that resonates with Swyngedouw's critique. However, it is an analytic over-extension to paint a kind of end-of-history picture of the situation.

Below, an alternative reading is provided drawing on cultural political economy and qualitative data to investigate two interwoven tendencies in climate politics: populism and progressive technocracy. To begin, a brief reminder of the political history of climate change is instructive. Across the 1990s, a long 'carbon war' was waged by resistant energy interests who campaigned forcefully against the prospects of emissions reduction regulations (Levy & Spicer, 2013). Their targets were environmentalists, scientists, intergovernmental bodies and some domestic government agencies in developed countries (McCright & Dunlap, 2000). The struggle appeared to shift in the early 2000s. Between 1999 and 2009, a 'carbon compromise' was being brokered among politicians, business and environmental groups for a gradual transition to a low carbon economy.

According to Levy and Spicer, both the techno-market imaginary and a 'climate apocalypse' imaginary were dominant in the 2000s. The authors do not consider the relationship between populism and technocracy beyond repeating Swyngedouw's argument. Applying Jessop's (2004, 2010) cultural political economy allows us to break this down further. There are different genres of claim-making and political praxis that have come to be aligned with one another during the course of political debate over climate change. Climate populism is better understood as a genre of political practice. It is a genre used by a diversity of actors on the political Right and Left, but it is not a fully articulated economic imaginary. Further, what Levy and Spicer call a 'climate apocalypse' imaginary in part reflected the Left's unfulfilled search for an alternative, transformatory politics for rapid energy transition.

Climate emergency! The rise and fall of a climate movement

In the mid-2000s, a self-identified grassroots climate movement emerged in Australia. It was a high point in climate politics, at least in regard to elite political agreement and public support for climate policy. As society concentrated its mind on the changing climate, a new generation of 'climate activists' came together in Australia (Rosewarne et al., 2014). Energy campaigner Julien Vincent remembers a movement 'barely existing' until it 'suddenly exploded with all these different groups in 2007, after inconvenient truths, after long droughts, after a change of government' (Vincent, 2013).

The arrival of new climate groups was the result of a shift in strategy from middle-sized ENGOs. Mark Wakeham who was also at Greenpeace in this period, outlined the efforts to mobilise a new movement developed around 2006.

The theory was really that we'd been under a Howard government for years, we weren't having a rational debate about climate change, it was obvious that we needed to do something but we weren't powerful enough to win, they weren't listening to environment groups, they weren't listening to business that wanted action on climate change, they weren't listening to anyone. So we really needed to build some grassroots support in places that mattered and a movement of active citizens. (Wakeham, 2014)

Greenpeace and conservation councils in each state encouraged the formation of new volunteer groups. The suggestion to new volunteers was simple. Go out, hold public

meetings and ask for appointments with your MP. Don't get bogged down in policy debate, just let decision makers know that they are not doing enough (Wakeham, 2014). It was a key part of environment movement organising during the 2007 election. By 2008, over 100 Climate Action Groups (CAGs) were formed by an average 6-12 volunteer members, concentrated in urban centres, and often made up of a majority complement of older middle class people. Between 2004 and 2010, there were also a number of new climate change NGOs created.

In the first two years of grassroots climate organising, the notion of 'climate emergency' was a key motif of the new climate politics being cultivated. Melbourne campaigners and authors David Spratt and Phillip Sutton (2008) published an influential book titled *Climate Code Red*. The book argued forcefully for 'emergency action' that could avoid the worst climate change scenarios in models that estimate non-linear 'feedback loops' in the earth system. Spratt observed that the book helped cultivate 'a substantial reorientation, at least in part of the activist circle.. it turned a few people into activists' (Spratt, 2013).

Spratt sought to contest the incrementalist strategy of ENGOs on climate change since the 1990s. His work in the Climate Emergency Network was about taking issue with the tendency to ask for low emissions reduction targets, and negotiate on limited policy reforms. More generally, Spratt and the networks of new 'climate activists' were trying to popularise the sense of urgency and for a concerted state response to climate change, on a 'war footing' similar to that of World War 2.

The main focus for the new climate action groups was public education. The new campaigners felt was 'really important that someone comes along and stretches the idea of what's possible' (Ogge, 2013). Rapid transition in energy production and consumption was another key objective, which saw attempts to bridge expert-talk about energy technology and policy with grassroots mobilisation. The new NGO Beyond Zero Emissions (BZE) sought to establish a collective political imagination for the technologies for change. BZE was 'the research arm for the climate emergency movement, the grassroots movement' (Courtice, 2013).

Most importantly, what the BZE volunteers sought to do was bring technical knowledge about renewable energy transition into public spaces. Other groups 100% Renewables and the Community Power Agency took the project further, mobilising in urban centres through door knocking and connecting working with local communities to develop locally run renewable energy projects. These practices were unlike the established genres of communication on climate and energy before then, where NGO, academic and/or commercial researchers would present their often less ambitious research findings in relatively closed spaces.⁴⁴

Climate activist practice was about translating abstract climate science into political objectives (Rosewarne et al., 2014). Uncompromising carbon targets and timetables

⁴⁴ When BZE first released its stationary energy plan to transition to 100 per cent renewable energy in Australia it was unprecedented in terms of its ambition, and there was debate amongst experts in the field about the veracity of the 'Plan' (Ogge, 2013).

were key symbols of the new climate radicalism. A common practice at the time was to make ‘human signs’ spelling out messages like *Climate Emergency!* and *Cut Carbon Now or Never* in public spaces. An energetic group in Sydney ran the ‘Turn the Tide Kevin’ campaign in 2008-2009, and called for peak carbon in 2010. An Australian branch of McKibben’s 350.org was set up in 2009. The number 350ppm (parts per million) was important. It is the number denoting a ‘safe’ concentration of greenhouse gas emissions in the atmosphere. Targets could become an unhealthy point of obsession (Woods, 2014), but at the same time, the distillation of the climate message into a single number was discursively powerful. The frame 350 generated interest ‘because it was about saying, okay, what is the safe number? Let’s campaign for the safe number, not campaign around what we think we can get out of politicians’ (Whelan, 2013). Tellingly, even this number was debated on activists e-lists as potentially not enough to avoid major glacial, permafrost and rainforest loss and so on.

Shorthand representations like ‘350ppm’, or ‘100% renewable energy’ are necessary for social movements, perhaps particularly a movement seeking to locate the global problem of climate change into a legible semiotic system that can foster a different future material reality. The limitation of these representations is that these tropes simplify, or hide, underlying relations of power associated with climate change. In more concrete, everyday issues activists observed that they were struggling to build collective power at the material sites of contestation.

Mobilisations targeting fossil fuels were a second key arena in energy-related climate activism. This form of climate campaigning began with Greenpeace work on coal and community campaigning in the Hunter Valley, where a wave of new major coal mine expansions had occurred since 2002. New patterns of affiliation and new scales of political mobilisation were visible as environmentalists joined with affected local residents (Connor et al., 2009; Higginbotham et al., 2010). The Rising Tide collective in Newcastle was a key node in these campaigns. The group was established in 2004 by experienced forest and biodiversity campaigners and students. George Woods, a co-founder of the group, summarised the first stage of campaign work as an effort to expose the reality that ‘coal and climate change are connected to each other. Our coal industry is our biggest contribution to climate change’ (Woods, 2014).

Climate action mobilisations peaked in 2009 when direct action Climate Camps were planned in four locations in Australia (there were more than 20 Climate Camps held worldwide that year). The Climate Camps were modelled on protest events first held in the UK from 2007 and formed part of an emergent global ‘climate justice’ movement (Goodman, 2009; Saunders, 2012; Schlembach, 2011). The aim of these 2-4 day events was ‘to create a broad and popular civil disobedience movement on climate change’ (Woods, 2014). The Camps set up at coal hotspots, for instance near Newcastle where a third terminal was planned for the coal export port, and at the site of an ageing coal electricity generator. The events would culminate in direct action protests aiming to disrupt production.

There were some reflections about campaigning instigated by these camps and related mobilisations. Climate Camps in Helensburgh in NSW and Morewell in Victoria both attracted dissent from nearby residents and workers who saw coal as central to their livelihoods. And at other Camps there were some tensions between environmentalists and traditional owners. Reflecting on the NSW Climate Camps, a CSG campaigner

recalled that ‘we were in there for a weekend and then out again’ (Hogan, 2014). This prompted a process of reflection for activists wanting to build alliances. A Melbourne campaigner summarised the collective lesson.

relationships are hard work and they take a lot of time and energy and I don’t think we really understood back then how to do community engagement and how to work well with the communities who are actually affected by coal.. (Anonymous, 2013b)

In other words, environmentalists were confronted with the difficulties of legitimating their political project for rapid energy transition in society. The short bursts of civil disobedience would not be enough, and a different approach was needed to build power in the fight against fossil fuel capital.

The period was also marked by interest in building a broader normative and strategic agenda as a national movement. Countless meetings saw activists debating how rapid energy transition can be realised. Taken together, the nascent imaginary developed by civil society actors at this time centered on themes of climate justice, democracy, renewable technologies and eco-sufficiency (R. Pearse et al., under review). However, a diversity of perspectives on strategic and broader political issues were not cohered across the field of social movement activity. More importantly, the social movement call for urgent and wide-sweeping climate action did not extend far into popular culture. In Australia the combined weight of division and political inertia in the ETS debate and the failure of the Copenhagen UN climate meeting saw the ‘climate action’ movement demobilise from 2010.

The CPRS posed a major strategic dilemma for environmentalists. As is the case with many movements, the promise of policy outcomes created the potential for internal tension and lost political momentum. A majority of the grassroots movement opposed the ETS on the grounds that it would ‘lock in failure’. However, the largest ENGOs supported the CPRS. For some, there was an underlying difference in strategic thinking on the issue. Spratt argued that there was ‘an inversion of roles’ between ENGOs and the Greens.

in historical terms a progressive political party normally can progress an agenda because it is a voice that sits between the prevailing status quo and a movement and a sentiment that is more extreme or more out-there than that progressive party. (Spratt, 2013)

In contrast, Climate Institute CEO John Connor argued that the CPRS negotiations didn’t work that way. A hard line on emissions targets or other issues like industry compensation ‘was just not going to fly with the ALP and it would just mean no action and we’d miss the opportunity for setting in place some sort of mechanism that could be ratcheted up’ (Connor, 2014).

A number of advocates engaged in the policy negotiations reflected on the CPRS as a lost opportunity. For instance, union leader Tony Maher contends that ‘the CPRS would have closed the door on the debate’ (Maher, 2014). It was the key moment, which may not be repeated.

We’ll never get as good a deal on jobs again. Abbott will only last so long. At some stage there will be a government that comes back in with a mandate to introduce a

scheme. We'll have to start again, and there might not be an intelligent person to deal with across the table, who has a sympathy for jobs. There might be some economic rationalist faceless man. (Maher, 2014)

The division between environmentalists at the time was about communication and trust between the Greens and grassroots groups on the one hand and larger ENGOs who supported the CPRS. One campaigner reflected on that time saying 'the drama was that they did it without anybody knowing' (Woods, 2014). An ENGO campaigner shared that this kind of movement tension has a longer history (Anonymous, 2014c). For instance, during negotiations over the Federal EPBC Act there had been tension between conservation ENGOs on the inside track who negotiated with the Government without disclosing their strategy to other movement groups (see Doyle, 2000).

Importantly, the epicentre of conflict over carbon pricing was in Parliament, and largely excluded environmentalists of all stripes. The weight of inaction in Federal politics and internationally had taken its toll on the movement and on the public in 2010. Fatigue was setting in for the grassroots groups who had been in top gear for the previous two years. A number of campaigners recognise this as the moment that momentum was lost, 'everything seemed to change in that six months after Copenhagen' (Anonymous, 2014c). Public opinion had shifted 'and in that six, nine months the whole show was lost' (Spratt, 2013). Most CAGs withdrew for a number of reasons, one of them because 'people can only sustain that kind of involvement for a certain period of time when it's all volunteer based' (Soutar, 2014).

There was not a blanket retreat after the failure of Copenhagen and the CPRS. Fossil fuel and renewable campaigning was developed further (see chapter 8). And ENGOs came together to campaign on the carbon price again. However, it is fair to say that the ambitions for a popular movement for 'radical' climate action were not realised. As a result, a transformatory economic imaginary for decarbonisation did not emerge in beyond the fringes of political debate.

It is important to recognise that there were barriers in the 'real economy' to this political project. Australia was experiencing an unprecedented boom in coal and gas exports, and there was slow, mixed progress in the campaign for regulatory support for renewable energy. An alternative energy value regime embedded in everyday life and in economic structures was proving to be difficult. It would have to become a long term task for the new generation of climate activists.

Rudd's 'great moral challenge of our generation'

The climate activism described above was in part a response to the failings of pragmatic climate politics, with its focus on market adjustments and technological fixes. The techno-market imaginary has been long-established in global spaces of climate governance and elite policy circles but it has proven to have limited popular traction. In other words, this imaginary was not deeply embedded through a lasting political economic settlement between capital and the state in Australia. Nor is the techno-market imaginary embedded in the everyday lives of Australian citizens beyond the urban political class and environmental campaigners. To develop this point with regard to the identities and discourses that carried the techno-market vision, I look at Rudd's

progressive technocratic call to price carbon, and the very political unravelling of this agenda.

A type of progressive populism was woven into Rudd's discourse on climate policy reform from 2007. The entrance of Rudd contributed to an amplified moral tone to climate politics in Australia. Rudd was described by journalist Paul Kelly as having 'enshrined climate change as the new moral passion for the Labor Party in a way that recalled Ben Chifley's invocation of the Light on the Hill' (Kelly, 2007a). With the Labor Climate Change Summit the new Labor Party leader has established 'ownership' over the climate policy issue, wherein faith, passion and responsibility would be used to 'forge a national political and policy consensus' on climate change (Kelly, 2007a; Rudd, 2007: 1).

There was a liberal internationalist ethic behind Rudd's speeches and writings (see chapter 4). His moral politics was a political counterpoint to the narrow nationalism of the LNP. Rudd was prone to making a wide range of ethical and moral claims about future generations, the South, and on nature. Inter-generational climate justice was a key theme during the 2007 election campaign and in the subsequent debate about the former government's CPRS. The difficulty of the climate problem in Rudd's words was that climate change 'challenges us all as a nation, because it goes beyond our generation into the next and into the one after' (Rudd, 2008d). Further, Rudd announced:

we are absolutely determined to get the policy right for the long term. If we fail to do that, we fail the next generation and frankly given how intense the climate change effect is already being felt across Australia, we fail our own generation as well. (Rudd, 2008e)

Rudd's Earth citizenship mirrors the 'planetary ethic' of Al Gore's movie *An Inconvenient Truth* (Luke, 2008). Rudd's discourse on climate change rested on the idea of a crisis for humanity that warranted a global and inter-generational political response. He borrowed heavily from the genre of environmental advocacy. The moral claims made by Rudd were also expressions of Christian Earth stewardship.

The planet cannot speak for itself. Nor can the working peoples of the developing world effectively speak for themselves, although they are likely to be the first victims of the environmental degradation brought about by climate change. Nor can those who come after us, although they are likely to be the greatest victims of this inter-generational injustice. It is the fundamental ethical challenge of our age to protect the planet – in the language of the Bible, to be proper stewards of creation. (Rudd, 2006a)

Throughout his term Rudd further established his identity as an international statesman. At a UN General Assembly Meeting addressing the financial crisis, Rudd expressed his liberal internationalism when he declared that 'interdependence is the new realism of this 21st century' (Rudd, 2008b). Rudd made a great deal of Australia's role in multilateral climate talks. Upon election in 2007 the new Prime Minister flew straight to the UNFCCC COP13 in Bali, where he provided Australia's ratifying signature to the Kyoto Protocol. Here, Rudd figured himself as a middle power leader brokering a 'grand consensus' between developed economies and developing economies (Rudd & Badawi, 2008). The ALP claimed to have been instrumental in brokering the Bali Roadmap (PMC, 2008).

Rudd argued that the climate was a global atmospheric public good; the ‘self-evident commons of our collective humanity’ in need of protection (Rudd, 2008c). At the Bali UNFCCC conference Rudd gave a landmark speech.

The truth is that we – the community of nations – are in this together. The truth is that this challenge of climate change transcends the old ideological, political and developmental divide. As our host, President Yudhoyono, said to me when we met yesterday, there can be no North or South, given the dimensions of this challenge. Together we are custodians of the planet. Together we are custodians of the planet’s future. (Rudd cited in *The Australian*, 2007)

Rudd’s rhetoric could be read critically for being silent on welfare issues in the global South, where climate crisis is already posing greater risks to the livelihoods and safety of the poor. Doyle and Chaturvedi (2010: 519) argue climate change is often used by political actors and institutions in the North ‘to territorialise the world in a manner which dissolves and absolves differences between North and South, between the affluent and less-affluent worlds’. Rudd’s claim at the UN that ‘there can be no North or South’ can be taken to imply this. The future orientation of Rudd’s moral concerns privilege inter- over intra-generational justice issues, and thereby concerns of the North over the immediate welfare concerns of the South (Catney & Doyle, 2011). And more concretely, Rudd’s discourse continues the tradition of Australian Prime Ministers who have insisted the developing world take on binding emissions cuts without attending to the historical questions of responsibility (chapter 3).

This kind of critique is most convincing when it looks at moral claims as mutually constitutive of political economic dynamics, including of climate governance arrangements. In the first instance, we can interpret Rudd’s performances as statesman and Earth citizen in terms of the national interests it serves. The Indonesia-Australia forest carbon alliance, for instance, was a clear example of national economic protectionism on Australia’s part, and Indonesia was on a search for carbon rents. The initiative provided limited protections for forest communities and delivered no emissions reductions (see chapter 6).

The issue of international offsets was not a major political problem for Rudd during the CPRS debate,⁴⁵ but had the ETS continued it is reasonable to hypothesise that a healthy market in forest carbon credits would not have arrived even in the medium term (Isenberg & Potvin, 2010) and, thus, the national question of emissions reduction would have likely continued. The international politics of forest offsets illustrates that the ‘new carbon economy’ is easily asserted in broad universal discourses, but is tenuous in its political economic realities.

There are further normative implications associated with Rudd’s declaration of a moral climate challenge. Looking back at the domestic political situation, there was a failure to create a popular vision, or at least sufficient support in civil society to legitimate the

⁴⁵ The CPRS design entailed no limits on international offsets, and the Rudd Government anticipated heavy reliance on carbon sinks in the medium and long term forecasts of the ETS.

CPRS. Giorel Curran's critique of Rudd is useful in conceptualising why. Curran (2011) argues the former Prime Minister's conflicting 'ecological modernist' and 'climate justice' narratives undid his leadership and the CPRS. In 2007 Rudd expressed moral concern about climate change, which saw him chiming with the nearly 70 per cent of Australian society who felt similarly (see figure 5.2). When in Government, however, Rudd set out on a lengthy and technocratic policy process premised upon minor adjustments through the carbon market and technological innovation (the ALP also announced \$1.5 billion in 'clean coal' research funding in 2007). Curran argues that the disjuncture between political rhetoric and policy outcomes brought the episode in politics to a bitter end (see also Bailey et al., 2012; Widmaier & Grube, 2015).

Overall, Rudd's moralism and globalist technocratic approach to climate change was put to the test in the domestic political sphere. In the 2007 election campaign, Rudd had tapped into an emergent popular sentiment and appetite for a break from 'politics as usual'. The small but vocal climate action movement was looking for visible signs that the ALP would commit to an ambitious national emissions cap, and other campaigners would not be satisfied without evidence that the Rudd Government would instigate a shift away from coal dependence and challenge the dominance of fossil fuel capital. This was not forthcoming, and Labor faced resistance because of it. Most importantly, the Greens did not support the ETS, and decided to vote against it in December 2009, when they briefly held the votes necessary to see the ETS passed in the Federal Senate.

It is tempting to say that the CPRS failed due to the difficulty of communication and negotiation only. This implies that a neater, less contradictory policy narrative coupled with a more conciliatory approach in Parliament could have 'solved' the politics and bedded down a carbon market governance structure that could be improved over time. Against this reading, I argue that we should reflect more broadly on the crisis of climate politics this moment in political history set into play. Importantly, the failure of an embedded and popular (i.e. not populist) agenda for urgent climate action is also a key part of the situation. In addition, resistance from the political Right contributed to this turn in climate politics.

Against technocracy: The IPA, political values and markets

There was another kind of push back against carbon pricing between 2008 and 2009 from libertarian public intellectuals, media personalities, and within the Murdoch press. A small but vocal group of conservative public intellectuals took a strong oppositional stance against both the policy and the technocratic vision of governance it represented.

The IPA was a leading organisation in this resistance. The IPA is a longstanding think tank, with a history of intellectual influence in Australia. During the Howard LNP government, the IPA provided 'discursive frames' with which to legitimate neoliberal policy agendas and de-legitimate opponents (Cahill, 2013: 81). The IPA contributed in a way that was distinct from the work of economists in the private sector or the think tank CIS engaged in the politics of carbon price modelling, design, marginal costs and so on.

Perhaps the most important role the IPA played in the carbon pricing debate is that its vocal representatives anticipated key discursive and strategic directions in conservative opposition. For instance, during the CPRS debate, the IPA advised a shift in

conservative position and claim-making about the ETS. In March 2009 Tom Switzer, an IPA Fellow and former LNP advisor, predicted that the CPRS could fail. He outlined a rhetorical strategy for the LNP that neatly summarises the claims that came to define conservative opposition to carbon pricing, after Abbott took over as LNP leader. Switzer (2009) argued that the LNP should:

First, insist that the ETS will kill investment, lower growth, drive jobs to nations where costs are cheaper and raise prices that would ripple throughout the energy chain and touch every corner of the slowing economy...

Second, highlight the unfairness of imposing emissions ceilings on industry at the height of the global financial crisis...

Third, suggest more practical ways of limiting carbon emissions, including simpler and more transparent forms of taxation on industry...

Fourth, forget about questioning the science underlining global warming and leave that debate to the climate scientists, policy wonks and media columnists on the sidelines.

These arguments were more than good media advice. It describes elements of what became an effective conservative populist response to carbon pricing as unfair, ineffective, needlessly complex, and with an element of elitism. The IPA cannot be said to have written the strategy of conservatives in Parliament. However, the actions of LNP opponents to the ETS mirror this strategic advice in many respects, implying a connection in lines of political thinking at least. I explore the normative implications of these strategies further in the next chapter.

What is important to identify in the context of this discussion about the late-2000s is that the IPA expressed its opposition as a critique of the technocratic ethos of Rudd's approach to government and carbon pricing. For instance, Chris Berg identified Rudd as a technocrat 'whose crude, pseudo-utilitarianism promises the expansion of government into all aspects of Australian life' (Berg, 2009a: 9). Writing and presenting along these lines as well, Tim Wilson (then with IPA) shared his dislike for technocratic progressivism.

I can't stand technocracy. It's this idea that there can basically be a small elite who can design things and run people's lives for them. It's anathema to the principles of liberalism and democracy. (Wilson, 2014)

Wilson objects to technocracy as a political tool that is used to transcend democratic decision making, and replace values with technocratic control. Wilson argues that technocracy '.. delegitimises the role of the values about the question you ask' (Wilson, 2014). The conservative challenge is based on a normative claim to values-based politics, that is more grounded than the progressives' appeal to experts and technocratic governance.

Importantly, these values contest the possibility of removing politics from markets. The IPA's argument on carbon pricing was that nothing takes the politics out of emission reduction. Berg insisted that distributive questions and political decisions cannot be 'reduced to technocratic questions of policy design'.

Politics, not economics, decides how much pollution will be allowed. Politics decides who will be allowed to pollute. Politics decides the conditions under which the pollution permits will be traded. (Berg, 2011b)

Wilson emphasised the similarity between an ETS with other forms of regulation. He pointed out that carbon pricing is not the efficient tool technocrats make it out to be. Rather carbon markets ‘can be manipulated like any other regulation’ (Wilson, 2013a).

Wilson’s libertarian economic imaginary unsurprisingly focuses on technology and innovation. The marketplace is the alternative to technocracy.

The marketplace is the most radical form of activity in society there is, because it's about constant creative destruction, finding new ways to do things. There's a rampant, creative demand to find a way to generate power out of virtually no investment cost. That incentive absolutely exists, nobody can argue that. The only difference is the gap between where we are and where we want to be, to achieve it. (Wilson, 2014)

Interestingly, upholding these libertarian values has placed the IPA at odds with the present government over its Direct Action Plan. IPA resistance to the ETS articulated the FME perspective, that opposes emissions trading (and direct action) on the basis that it is not a free market solution (Wilson, 2013b). I discuss the ruptures in the conservative campaign against carbon pricing in the next chapter.

Conclusion

By considering the cultural political economy of climate politics in the late-2000s I have sought to explore the normative implications of carbon pricing politics in greater depth. We can now appreciate the political significance of the failure to price carbon in Australia at that moment. Put simply, the Australian government’s self-appointed task in 2008-09 was to institute a legitimate and effective package of marketised climate programs in order to manage the legitimisation crisis societal concern about climate change propelled. In formulating its policy response, the Australian Federal bureaucracy and its attendant advisors acted upon a long-standing preference for market mechanisms. The legitimisation of this crisis management technique has proven difficult.

This chapter has explored the tensions between agents and economic imaginaries in the field. Importantly, former Prime Minister Rudd expressed a techno-market imaginary, but also borrowed discourses of climate justice and Earth citizenship to legitimate the state’s response. The political purchase of Rudd’s progressive technocrat identity waned not only because of strategic errors made in parliament, but because the approach to marketised climate governance taken did not sufficiently address the deeper worries about climate change and appetite for action at the time in Australia and other parts of the globe. The CPRS promised only marginal adjustments to the market and technological ‘solutions’. Resistance from the Greens and their supporters played a part in undermining the CPRS and the Government’s attempt to manage the climate crisis with minimal action.

Just as significant, if not more so, is resistance from the Right since 2009. The case of the IPA illustrates that conservative intellectuals have targeted the technocratic ethos of carbon pricing, insisting that it contravenes values of fairness and transparency. The following chapter details the conservative counter movement as social force seeking to

articulate a ‘fossil fuels forever’ imaginary, and explores emerging contests over energy in the wake of climate policy failure.

Before moving on, it is important to note that this interpretation of conflict over climate policy in Australia may resonate with other parts of the world, but only a comparative analysis would test this properly. The failure of the CPRS in 2010 was mirrored by similar developments in the US (Harrison, 2007; Rabe, 2011). Like Rudd, President Barack Obama deployed progressive and moral language. Obama also critiqued excessive faith in free markets as the financial crisis played out, and argued for a ‘Green New Deal’ (McCarthy, 2012). The Obama government has also been faced with a similar kind of political opposition. Republican and Tea Party resistance to climate and energy policy was a key force behind the failure of the Federal cap-and-trade bill. More generally, the US, like Australia, also embarked on major expansions of fossil fuels since this time, and the hope for ecological modernisation is discredited (p. 188).

We can anticipate that there may be more similarities between Australian and North American cases, but in the absence of space for comparative analysis we can only speculate. With regard to the implications of my interpretation of the challenge to Rudd as a challenge to technocratic climate governance, there is another qualification to make. Any diagnosis about the normative failure of technocracy may not be so applicable to the EU region, where technocratic carbon governance is relatively successful, at least insofar as EU officials have been able to negotiate with broad networks of actors at the regional level, somewhat divorced from domestic politics (Bailey et al., 2011).⁴⁶ There is scope for further research here too.

⁴⁶ Thank you to Ian Bailey to pointing out these important political differences.

8 Fossil fuelled future?

Counter movements and carbon contradictions

Introduction

The current LNP government and its supporters in civil society have developed a long list of objections to the idea of assigning a price to greenhouse gas emissions. Countless speeches, media grabs, and pithy editorials by critical public figures have been dedicated to cutting down Australia's first national ETS. The ETS began in 2012 as a 3-year fixed carbon price with plans to transition to a full trading scheme, but was repealed in the Federal parliament in 2014. At present, the conservative government's alternative climate policy, the 'Direct Action Plan' (DAP), is in disrepute. On the face of it, we can say that a conservative counter movement has succeeded in a campaign against legitimate and effective climate policy. However, the conservative victors have not realised popular authority through their stance on climate policy, and neither have their opponent social democratic parties, labour and environmental organisations who backed carbon pricing.

Climate policy has proven to be difficult terrain for Australian environmentalists of all stripes. Climate policy campaigners have struggled with dilemmas of compromise and with the formidable task of legitimising the carbon price in the context of conservative opposition to it. Meanwhile, another layer of activists have been campaigning on issues that lay beyond the scope of climate policy reforms (see chapter 6). In effect, fossil fuel and renewable energy campaigners are pursuing direct action on a variety of social, environmental, and economic issues in the energy sector. There are new possibilities opened up through the wider focus, beyond carbon reduction. There are also new challenges.

This chapter considers these two counter movements as competing social forces. The first section revisits the political economy of carbon pricing, drawing out theoretical connections between the contradictions of marketised climate governance and the political contestation that it incites. The second section illustrates that the push back against carbon pricing in Australia is a kind of counter movement lodging claims for social protection. I detail the political claims, genres and the discourse of protection utilised by the conservative public figures, notably the current Prime Minister Tony Abbott. Crucially, a concern for social protection has been expressed through a headline objection to the ETS as a regressive and ineffective carbon tax imposed on households. Conservatives have likewise articulated an agenda to protect energy-intensive industries from emissions regulation. These discursive interventions leveraged the contradictions of both carbon taxation and carbon trading in order to delegitimise Labor's CEF reforms.

The third section provides a comparison case of counter movement. It traces the strategic directions of environmentalists since 2010. First, I look at responses to conservatives on the Left, and the continuation of calls for carbon pricing. There is also another development of interest in environmentalism. In many instances, campaigners have moved further away from the carbon pricing contest, and sought out a more concrete energy politics symbolically focused on renewable energy and the sites of new energy projects. My concluding remarks reflect on the prospects for an alternate imaginary for 'energy justice'.

Overall, I argue for a deeper consideration of the substantive and socio-political failure of carbon pricing as part of a broader political impasse. The techno-market imaginary has been unraveled further since 2010 as a result of conservative opposition to carbon pricing. Conservatives expressed a populist objection to progressive technocratic governance they associated with pricing carbon. The political responses to date have not dealt with the normative challenge for environmentalists and the political Left on climate policy. That challenge is to articulate and embed a just and transformatory economic imaginary that can supersede both conservative populism and the utopian hope that technocratic governance can deliver effective and legitimate emissions reduction.

Contradictions and counter movements

There is a Polanyian tendency in the critical literature addressing contestation over carbon pricing that has left unanswered questions about counter movements (see chapter 1 and 2). Importantly, analysis of social movements and the change they seek must also be historically specific. Polanyi's concept of counter movements was underdeveloped. He portrayed counter movements as natural reactions to the extension of markets into new areas of life, and does not pay sufficient attention to the mediations which play out between marketisation as an historical pattern, and actual historical movements (Dale, 2012: 21). As a contemporary remedy for this, in-depth sociological detail is needed to interpret the variants of 'protection' movements in the world today, why they resist, and how.

Rather than read the political economy of carbon pricing as a contest between social forces for and against 'carbon commodities', I argued that more complex dynamics of contention are in play. The reason for this is obvious when we look at the diversity of

agents and imaginaries vying for influence in debates over carbon pricing. Polanyi (2001[1944]) documented a similarly broad social backlash to early transition to market society in Europe, and distilled the diversity of political struggle into a unitary concept of ‘protection’. That is, he theorised that counter movements mobilised in response to marketisation and the resulting political economic dynamic was a ‘double movement’.

Revisions are needed if we are to apply Polanyi’s thinking to the case of carbon pricing. Carbon markets promise marketisation *with* climate protection. They entail both sides of Polanyi’s metaphor for the underlying tension in market society. When we look at carbon pricing in substantive detail, we can appreciate the contradictions and distributive dilemmas of this mode of climate governance. The political economy of tradable carbon credits centres on the state’s ongoing role in first appropriating, then distributing and re-regulating carbon rights circulating in a ‘fictitious’ market over time.

Following Jones (2009) and Felli (2014), I have argued that carbon pricing is not an accumulation strategy in its own right, but rather an administrative means to displace the task of limiting access to the conditions of emissions-intensive production. Through international and national climate law, carbon pricing extracts surplus value from the economy and potentially redistributes wealth (depending on scheme design). And most importantly, the energy question is fundamental to whether and how a given price on carbon might reduce emissions.

When we consider the contradictions of carbon pricing in substantive detail, the character of counter movements can be seen with new eyes. We can now appreciate that political mobilisations over carbon pricing are contesting an enduring fundamental question about whether a carbon price will limit energy-intensive commodities in the national economic sphere. At the same time, the expression of politics becomes particularly abstracted and confused because normative focus on empty signifiers like ‘carbon’ can obscure material realities and limit the popular appeal of climate action. Put another way, the semiotic content of debate over carbon pricing illustrates that marketisation of climate governance refracts capitalism’s energy question and produces unruly politics.

Chapter 7 showed that the techno-market imaginary creates new identities (international statesmen, technocrats, and carbon entrepreneurs), expressions of Earth citizenship and moral populism which have in turn been contested. The material realisation of a ‘new carbon economy’ has been challenged by the difficulties of legitimating carbon pricing schemes in major economies like the US and Canada (Harrison, 2007, 2012), as well as Australia.

This chapter points to interesting developments in the wake of the failure of carbon pricing. Mobilisations of counter movements have changed the normative content of the climate debate. Popular understandings of the climate issue appear to be breaking away from the semiotic abstractions associated with carbon pricing. I will argue that the competition between the conservative imaginary for ‘fossil fuel forever’ and an emergent ‘energy justice’ imaginary may be taking Australian society into new political terrain. The following two sections detail how this political shift has played out.

Conservative populism and contradictions of carbon pricing

The most vocal opposition to carbon pricing in Australia has come from the political Right. A good deal has been written by North American sociologists about conservative counter movements whose members harbour sceptical views about climate change and other environmental issues (Dunlap & McCright, 2011; Jacques, 2012; Jacques et al., 2008; McCright & Dunlap, 2000, 2010). Critical sociologists have contended that conservative mobilisations against environmental regulations are a force antagonistic to ecological modernity.

‘Climate scepticism’ is associated with conservative counter movements that have mobilised against the growing popularity of environmentalism in the 1970s in the US and other Northern countries. Peter Jacques defines counter movements as ‘an ideological force marshalled to defend modern capitalist accumulation’ (Jacques, 2008: 9). McCright and Dunlap (2010) argue conservative counter movements are a force of ‘anti-reflexivity’. In theories of reflexive modernisation, both environmental impact science and ‘new’ social movements emerged as forces for reflexive modernity. That is, in contrast to the ‘simple modernity’ of industrial capitalism, science played a role in capitalist industrial development.

In this new ‘phase’ of modernity, science contributes to a reflexive process wherein society turns the tools of modernity back upon itself to address contemporary problems (Beck, 1992a). Environmental ‘impact science’ challenged the assumption that production science inevitably led to advancement and progress for society (McCright & Dunlap, 2010: 104; Schnaiberg, 1980). Environmental movements are a second source of reflexivity in modernisation theories. Movements generate public concern about environmental problems and increasingly try to act as a ‘third force’ by creating strategic alliances with state and market actors (Mol, 2000: 50).

A number of social scientists have examined the political effects of sceptical objections to climate science (Jacques, 2008; Jacques et al., 2008; McCright & Dunlap, 2000; Oreskes & Conway, 2010). By contesting details of climate science models, sceptics can instigate a political distraction that stymies deliberation and the progress of policy through democratic parliaments. McCright and Dunlap observe it is similar to the second dimension of power that Lukes (1974) termed ‘non-decision making’. They point to a number of strategies deployed by conservatives: 1) to obfuscate, misrepresent, and suppress scientific research; 2) to intimidate individual scientists; 3) to ‘capture’ regulatory agencies in order to change existing rules or create new procedures in the political system; and 4) to invoke an existing bias of the media (McCright & Dunlap, 2010: 109-125).

Conservatives make political claims largely in keeping with market liberalism, a political ideology which stresses the importance of laissez faire capitalism, property rights, and minimal welfare provisions (Antonio & Brulle, 2011). The view of nonhuman nature invoked by conservatives rests on Promethean assumptions of abundance in ecological and energy systems, and opposition to scientific claims about ecological scarcity (Jacques, 2008). And perhaps most importantly, conservatives in Australia have aligned themselves with the energy and industrial sectors, and asserted moral allegiance to fossil fuel capitalism.

I demonstrate below that the political strategies of conservatives in Australia have been to defend fossil fuel capitalism with the following normative claims: 1) by articulating a state developmentalist imaginary of the Australian national economy and 2) by making populist claims about unfair carbon cost distribution and opposition to weak and technocratic carbon governance. These two discourses and genres of political practice are in tension with another and have produced their own contradictions.

Fossil fuels forever: A national imaginary

Conservatives cultivated a discourse of protection in the climate policy debate which expressed a national imaginary focused on the economic risks posed by Australia's participation in global climate governance. Conservatives consistently pushed back against the ETS as a sovereign risk. Tim Wilson from the IPA argued that the Australian government should 'junk Kyoto' along with the carbon price (Wilson, 2012b), and that the carbon market is a threat to Australia's sovereignty (Wilson, 2013c). Like some experts described in previous chapters (4 and 5), then opposition leader Tony Abbott continually came back to the topic of limited international action.

There is no sign - no sign - that trading schemes are increasingly being adopted. If anything trading schemes are being discarded, not adopted (Abbott in Cassidy, 2013)

In a similar vein, Environment Minister Hunt used the example of the NZ ETS to argue that Australia's ETS was uniquely costly. The NZ scheme allows unlimited offsets, with a price of only \$1.11 / tCO₂-e (Hunt, 2012).

Conservative economists consistently argued that the Treasury modelling of the carbon price underestimated the sovereign risks of carbon abatement (see also chapter 5). A key feature of this intellectual debate was the expression of competing national imaginaries for the Australian economy and its future. The writings of economist and commentator in *The Australian* Henry Ergas are an illustrative case. In his criticisms of the carbon price Ergas asserted fossil fuels commodities would remain integral to Australia's long term economic development.

Whatever Garnaut may think, the reality is that we are and will remain a commodity-based economy. Blessed with a natural resource endowment that is among the highest in the world and extraordinarily diverse, comparative advantage drives us to specialise in mineral resources and agricultural production. No surprise then that our prosperity has always rested on putting that endowment to good use. The challenge is to ensure we continue to do so in the face of falling prices, slowing demand and the rapid development of competing sources of supply. (Ergas, 2012)

Ergas then went on to argue that approvals for new mining projects are slow. In parallel to the carbon price debate, conservatives also waged a campaign against 'green tape' (Edmands, 2014; *SMH*, 2012). This is about undoing the Federal level legislation limiting environmentally destructive development that has been won by environmental movements in Australia since the 1980s (see chapter 3). The LNP has been pushing for a devolution of Federal government environmental powers under the EPBC Act, which would mean the final decisions about major development projects such as the large mining and export coal port projects would be handed back to the States.

The conservative campaign against carbon pricing cultivated a ‘fossil fuels forever imaginary’. Ensuring protection for fossil fuels is the underlying motive for conservatives. This political economic concern is shared by the ALP as well as other members of parliament. However, the conservative commitment to the state developmentalist protection of energy, mining and manufacturing capital has a particular cultural valence on the conservative side of politics.

Fossil fuel capital takes pride of place in the conservative calls for protection against carbon pricing. Throughout the campaign against the carbon price, the LNP was in fact louder than industry representatives on the price impacts through the economy. At an address to the mining industry conference in 2014, Abbott explained why.

..if there was one fundamental problem, above all else, with the carbon tax was that it says ..a commodity which in many years is our biggest single export, somehow should be left in the ground and not sold. (Abbott, 2014)

Soon after, Prime Minister Abbott went further in expressing his moral commitment to the coal commodity to the national media.

Coal is good for humanity, coal is good for prosperity, coal is an essential part of our economic future, here in Australia, and right around the world. (Abbott cited in ABC, 2014)

This confirms insights from the sociology literature that scepticism seeks to conserve the current regime of accumulation and social status quo. In Australia, fossil fuel commodities are central concerns in the conservative protectionist agenda. In addition to this, conservative opposition to carbon pricing was expressed with a different notion of protection for households.

The double injustice of carbon pricing

The campaign against carbon pricing by the LNP was intensely focused on identifying the impacts on household cost of living. It was unrelenting on this issue, albeit based on embellished and off the mark claims about the distributive impacts of the carbon price. Abbott and senior ministers from the LNP constantly argued that the ETS was a ‘great big new tax on everything’ (Abbott in Parkinson & Vorrath, 2011; Taylor, 2009g).

A key example of the conservative strategy to cultivate discontent concerning the regressive impacts of carbon pricing came in response to the ENGO ‘Say Yes!’ advertising campaign. In May 2011, a coalition of ENGOs launched a million dollar ad and social media campaign that sought to establish public support for the ETS. The advertisement included celebrity Cate Blanchett (Say Yes Australia, 2011). In response to the ad campaign, Blanchett was heavily criticised. The LNP took issue with her wealth and ability to cover the extra costs carbon pricing imposed on households. In a characteristically intense debate in parliament, Abbott raised Blanchett’s political advocacy and sarcastically argued:

People who live in eco-mansions have a right to be heard. They really do. People who are worth \$53 million have a right to be heard, but their voice should not be heard ahead of the voice of the ordinary working people of this country. (Abbott in ABC, 2011b)

This kind of rhetoric illustrates conservative populism at work. In a similar vein journalist and commentator Janet Albrechtsen described:

the deep disconnect between the political class - the politicians, the activists, the Hollywood stars and the feel-gooders who are imploring us to “SAY YES” to a carbon tax - and the rest of us. (Albrechtsen, 2011)

Albrechtsen and other similar commentators contested carbon pricing as evidence that experts, environmentalists and liberal celebrities are part of an out of touch political class.

Conservatives picked up on the distributive dilemmas behind climate policy when making these normative claims. The combination of potentially regressive impacts on low income earners and compensation to industry made the risk of what Gough (2012) calls the potential ‘double injustice’ of carbon pricing a reality. Like the CPRS the ETS instituted in 2011 came with a grossly over-estimated ‘compensation package’ (Lo & Spash, 2012; Wood & Edis, 2011). Some of the most polluting brown coal electricity generators were estimated to gain between \$2.3 and \$5.4 billion in ‘windfall profits’ after passing the additional costs of carbon pricing on to consumers (CME, 2013). This scheme would have a net public cost of \$3.9 billion once the compensation was covered (Treasury, 2011a) (see chapter 3).

The LNP Environmental Minister Greg Hunt frequently picked up on these contradictory and incoherent dimensions of the CEF package, which including generous compensation for firms with compliance obligations in the ETS.

Who would know that the ALP gave \$5.5 billion dollars to Victoria’s brown coal electricity generators? So on the one hand there’s a massive electricity tax, and on the other there was arguably the biggest industry giveaway in Australian history.. so it was a policy which was completely confused and didn’t do the job. (Hunt, 2014)

The conservative push back against the costs of the CEF package raised important distributive issues such as the windfall for electricity generators, but they went undigested in public debate. Here, the governance failure in Australia’s energy markets (chapter 6) played into the agenda of conservatives. Under the cover of ballooning electricity prices, conservatives embellished the impacts on cost of living from the carbon price. However, debate over the ‘great big new tax’ claim morphed into a confused contest over determinants of electricity prices. In response, Labor and environmental campaigners tended to exaggerate in the other direction, claiming emissions reductions in the energy sector (instigated by electricity price rises) were a result of the carbon price. The end result was a cynical politics about prices at the margin.

Interestingly, the present moment signals somewhat of an inversion of roles between conservatives and environmentalists. In the 1980s there had been more hostility towards the idea of emissions trading, and a view among the Left that they constitute licenses to pollute. Economist John Quiggin reflected that in the last thirty years ‘that argument was fought out’ and that conservatives are now the most vocal sceptics of markets and science (Quiggin, 2014b). As the commotion over carbon pricing rolled on, the political

Right took ownership of the language of protection, and the Left dug in on the side of marketisation. The Left arguments for carbon pricing were on the basis of both market efficiency and the regulatory promise that the emissions ‘cap’ will ensure climate protection (e.g. White, 2014).

Any settlements over market mechanisms however, are likely to be contextual, and unstable. It is interesting to note that the Australian LNP’s ‘axe the tax’ political platform has been seen before in climate politics. In Canada, the New Democratic Party (NDP) ran an election campaign with the same title. The NDP argued that the carbon tax in British Columbia unfairly imposes costs upon working people, while polluting firms go unpenalised (Harrison, 2012: 392). The parallels in language between Australian conservatives and Canadian social democrats confirm that populist claims are not particular to one ideological tendency. It also points to the enduring relevance of distributive questions about the costs of emissions reduction, and who carries the burden.

Commodity fictions

In many ways, the conservative opposition to Australia’s carbon price highlights that both carbon trading and carbon taxation face criticism on the basis of their regressive impacts in domestic economies. The above issues of over-compensation and a disproportionate burden on low income households can occur with both carbon taxation and carbon trading. There are other elements of the conservative campaign however, that took advantage of the particular contradictions of carbon trading.

The conservative opposition highlighted the waning prospects for a successful global carbon market. For instance, Wilson’s critique of carbon trading targets the liberal internationalism of carbon trading. He observed that carbon pricing is based on the assumption that an international governance framework can provide market integrity. In other words, it assumes successful international cooperation.

.. it's built on this grand assumption that other countries will buy and sell permits, and that everybody will play ball, and there will be integrity behind those permits. And that's part of the problem. (Wilson, 2014)

Wilson and other opponents of the carbon price are realists in their reading of the international politics of climate change, and on the basis of inevitable interstate competition and conflict, they insisted that the project of a global carbon market would fall over. Other significant dimensions of the conservative critique have made much of the fictitious character of the CO₂ commodity. The issue of effective market regulation and carbon offsetting was raised by conservatives early on. Since then, they have leveraged the crisis within carbon markets in a bid to delegitimise Australia’s ETS.

IPA public intellectuals developed their critique in depth through their participation in online and television commentary. Berg and Wilson identified the tensions involved in creating a market to serve a political goal (Berg, 2011a, 2013; Wilson, 2013b). For Berg, the belief in carbon trading was utopian.

If you ignore the emissions trading scheme’s crippling complexity, the inevitable exemptions, the free and subsidised permits, the compensation to lower- and middle-

income households, the politics, the rent-seeking, and the possibility of bureaucratic or regulatory error distorting the framework even further, then perhaps a market is better than no market at all. Well, it would be, if anybody thought it could work. (Berg, 2011a)

With a more populist genre and discourse, the LNP leadership expressed the same view. The LNP persistently observed that the carbon price would do little to limit emissions, pointing out that it ‘failed in its fundamental task’ (*AAP*, 2009; Hunt, 2013b). At the political rally held in Canberra 2011, Abbott pointed out the lack of ambition in the ETS.

Even on the Government’s own figures our carbon dioxide emissions go up from 578 million tonnes (Mt) this year to 621 Mt in 2020. (Abbott, 2011)

Abbott was pointing out the domestic emissions only. He did not bring up the 94 Mt of ‘international abatement’ Treasury anticipated would come from offsets sourced on international markets by 2020 (Treasury, 2011c).

The international distributive effects of carbon trading was contested at other times by conservatives. In 2011 the LNP contended that an ETS was risky in light of the failures of carbon trading internationally. Senior LNP member Julie Bishop claimed to be concerned about what this meant for the Australian experiment in carbon trading. In response to news that Labor have confirmed the ETS design would involve an international link, Bishop raised the issue of carbon market fraud, citing a financial consultancy report on the issue.

Deloitte Australia has warned that carbon credit fraud is the white collar crime of the future (Bishop, 2011)

Bishop borrowed from the Left critique of carbon trading in this intervention into the ETS debate. She also pointed to ‘carbon cowboys’ exploiting communities in rainforest nations. This attack on carbon trading meant the LNP was insisting that mitigation should happen onshore and not involve international transfers to developing countries. The reply from Labor was to dismiss this criticism as ‘economic xenophobia’ and paint the objection as a departure from the bipartisan consensus for economic liberalisation (Combet in *ABC*, 2011c).

Another response to the LNP’s regressive ‘carbon tax’ label was to change the ETS design in ways that compromised it further. In 2013 Rudd was briefly returned to the ALP leadership and Prime Minister position, and in the hope of ditching the term ‘carbon tax’ he proposed to weaken the scheme further by floating carbon price a year earlier than planned, and began negotiations for linking to the failing EU carbon market.

In response to this announcement, Abbott again touched on the regulatory difficulties that an Australia-EU carbon market linkage would have produced. He did so in his characteristic populist genre, refuting the market status of carbon pricing and tCO₂e commodities all together.

This is not a true market. Just ask yourself what an emissions trading scheme is all about... It’s a market, a so-called market, in the non-delivery of an invisible substance to no one (Abbott in Cubby, 2013)

Incidentally, Rudd's plan to shift to a floating carbon price early did not dissolve the LNP's characterisation of the ETS as a regressive consumption tax. In Abbott's words: 'Whether it's a fixed tax or a floating tax, it's still a tax, it still hurts' (Abbott in Metherell & Hawley, 2013). Abbott argued that international linkage means 'we aren't reducing our emissions, we are just engaging in a massive transfer of wealth from this country to carbon traders overseas.' (Abbott cited in Taylor, 2010). In a similar vein, Alan Moran from the IPA criticised the linkage, saying it would mean up to \$1 billion in transfers to the EU (Moran, 2012).

Rather than engage with the kernel of truth to these objections, the carbon pricing debate has been stunted. Journalists interpreted Abbott's intervention as an 'invisible nod' to scepticism (Cubby, 2013; Green, 2013a). The Labor and Greens, experts, as well as campaign groups were quick to argue this claim was about denying the science and impacts of climate change (Aston & Kenny, 2013; Henderson, 2013). Most ENGOs and the Greens welcomed the decision to link the EU ETS. Meanwhile a major regulatory change was made to the ETS with little scrutiny.

In summary, the conservative counter movement in Australia targeted marketised climate governance and have sought to delegitimise the techno-market imaginary. Conservative political actors have contested the incoherence of the ETS, symbolically targeting the distributive dilemmas and fictitious character of tCO₂-e commodities in their normative claims. They have leveraged the contradictions of the carbon price and in doing so, have contributed to an interregnum, where it seems the order of fossil fuel capitalism is dying, but there are no viable political alternatives.

There are no viable hegemonic alternatives *yet*. The next section discusses the political response to conservatives and the carbon pricing debate amongst environmentalists, pointing to political possibilities opening up.

Environmentalism and the fragmentation of climate action

Climate change and energy activism in Australia, and worldwide, is best understood as a diverse network of groups with overlapping motivations, campaign targets and strategies (see introduction to Australian environmentalism in chapter 3). Campaigners interviewed for this research observed that there are three central arenas of movement activity - fossil fuels, renewables and climate policy campaigning. They are intersecting arenas of political practice in terms of interpersonal and organisational connections, a shared concern about climate change, and the overall necessity that political victories are realised in each arena. They are also distinct in a number of important ways. They are constituted through different narrative frames, strategic goals, and political economic dynamics.

Below is a very brief history of the recent development of these arenas of mobilisation in symbolic and material terms. I begin with discussion of the work to influence climate policy debate done by ENGOs and experts. This arena continues to be difficult. Responses to the conservative challenge to carbon pricing have been limited. There are new possibilities, however, opening up in contests over renewable energy and mining. The emergent energy activism in Australia is a creative attempt to express the climate

crisis as a challenge and opportunity to embark upon just energy market transformations.

Still a case for pricing carbon? Responses to the counter movement

After the experience of 2009, there was broad agreement between a wider number of environment and trade union campaigners to support a carbon price. This time, a majority felt the opportunity should not be lost. The Price on Pollution (POP11) alliance was larger than the previous coalition of groups supporting carbon pricing, this time including GetUp!, the AYCC, Greenpeace, and the conservation councils. The POP11 were concerned the package would not get up at all. The group was advised by lobbyists and professional advertisers that they needed a simple message. The Say Yes! communications campaign was an effort to tell the public ‘if you care about clean energy and you care about climate change, say yes’ (Anonymous, 2014c).

The campaign helped secure the CEF reforms; however it did not succeed in changing public opinion in favour of the ETS. There was a long process of reflection after the campaign. Some campaigners working in the POP11 and more campaigners outside it felt that the campaign dealt ENGOS out of politics by saying ‘yes’ before the policy detail could be negotiated. There were also bigger problems associated with making a popular normative case for carbon pricing. Reflecting on the political message of the Say Yes! campaign, a communications campaigner said making the case for a carbon price was trying, given the systemic nature of the climate problem.

No one thinks that a tax is a solution to anything. They think a tax is a problem.. when you present a problem to people that's massive and you say there's this huge thing we have to all change and the answer is a tax, like, that doesn't make sense to anyone. (Anonymous, 2014a)

Others observed that because conservative resistance put the carbon price in a ‘cost frame’ – which was difficult to refute (Anonymous, 2014b; Connor, 2014). Unionist Tony Maher (2014) reflected that conservative opposition to the carbon price was about more than ‘unsurprising’ fossil fuel industry protection. The conservative establishment and the Murdoch media got behind the campaign against Gillard’s ‘carbon tax’. The conservative counter movement was resisting carbon pricing on the basis of fundamental difference in political values, ideology and vision for the national economy.

The rise and fall of the ETS demonstrates that the political consensus on climate policy in 2007 was tenuous. Former AYCC Director Anna Rose felt that the movement had failed in 2006-07 to establish deep support for action on climate change.

..we had broad but shallow support, and that showed that people generally supported action on climate change but didn’t really know what that meant, didn’t understand at all the science, and didn’t understand that it would involve things like carbon pricing. (Rose, 2013)

As the debate over carbon pricing played out, elite division over carbon pricing has edged the movement out of the debate, and divided Australian public opinion (Tranter, 2011, 2013). Needless to say, forging a constituency and popular movement for carbon pricing has proven difficult. Mark Wakeham from Environment Victoria reflected that:

trying to get good economic policy to deal with climate change is the hardest by far of those three types of campaigning [fossil fuels, renewables, climate policy], and probably where the environment movement is struggling the most. (Wakeham, 2014)

For public intellectual Dan Cass, carbon pricing has been constituted through ‘impossible politics’. Cass’ conclusion is that renewable energy policy and development is a more fruitful arena of political mobilisation (see section below).

I think even if the philosophy and ethics of carbon pricing were pristine, we still have to admit the political failure to get super-majority of popular support for it, unlike renewable energy which has super-majority support. Carbon pricing is a failed policy if it can’t be implemented because its impossible politics. (Cass, 2014)

This analysis was extended by other critical intellectuals who see the carbon price debate as evidence of a broader crisis of legitimacy, and disconnection between the political class and a disenfranchised public (Lowenstein, 2013; Tietze, 2014).

The conservative populist resistance to carbon pricing has revealed the limited popular reach and normative traction of social democratic representatives and environmental advocates. Conservatives have contested carbon pricing in such a way as to reintroduce distributive issues into political contestation, where carbon pricing advocates have sought to elide them. For instance, both the Greens Leader and Julia Gillard retrospectively argued that the political problem posed by the carbon price was due to Gillard’s decision to accept calling the ETS a carbon tax (Gillard, 2013; Knott, 2014).

These responses to the conservative challenge are thin counter critiques of the situation as an issue of representation only. It implies that had the ETS been properly understood as a carbon market with household compensation, not strictly a carbon tax, the difficult politics would have resolved. This avoids attending to the limitations of both carbon taxation and carbon trading as regulatory instruments, including the fact that higher carbon prices in all forms create the political problem of regressive effects (see chapter 2). Further, this common critique defines the politics of climate policy as singularly about discursive ‘framing’, and does not attend to a deeper legitimisation crisis in play.

These diagnoses of the political problems of pricing carbon do not interrogate the deeper challenge to the techno-market imaginary that has occurred. There is a tendency in both academia and amongst political actors to assume that conservatives are a lone force in the undoing of climate governance. For instance, Jacques argues that the effect of counter movement mobilisation is a deceived public.

The true ideological and material objectives of the counter-movement are camouflaged by several tactics that confuse fair-minded citizens but empower those ready to deny climate change. (Jacques, 2012: 11)

The public is assumed as a passive recipient of false news in this account. On this point, Jacques has embellished the power of conservative counter movements to change social norms. The continued unpopularity of the LNP’s DAP is evidence that outcome has fostered further public disenchantment about the political class. Conservatives have not embedded an alternative hegemonic imaginary for the longevity of fossil fuels, free markets, or anything else.

More generally, there is good reason to trace socio-political failures in the climate policy debate to multiple sources and agents on the Left as well as the Right. The failure of the carbon pricing indicates the limitations of technocratic governance and its lack of legitimacy and reach into everyday life and values. We might also consider the rhetorical simplifications that environmental movements and other political actors use as sometimes cynical or unproductive.

At numerous moments in the carbon pricing debate, the ALP, the Greens and environmentalists responded to conservative opposition with rhetorical flourishes about the false beliefs of conservative critics of the carbon price. In response to LNP criticisms of the carbon price, ALP members often interpreted the policy debate as a question of belief in science. The former Prime Minister Gillard stated:

I'm determined to [price carbon] because climate change is real (ABC, 2011e).

In 2013, the Greens MP Adam Bandt used Twitter and an opinion article to draw a link between a serious bushfire in NSW where homes were lost, and the LNP's repeal of the carbon price (ABC, 2013; Bandt, 2013). He implied that the planned carbon price repeal and DAP proposal would cause greater fire risks into the future. The response from conservatives was moral indignation over Bandt's 'politicisation' of a serious fire (Kelly, 2013).

These exchanges are no doubt garden variety jousts between politicians. But more fundamentally, they illustrate that the Left has actively participated in a process of reducing political debate about climate policy to 'belief in science', and therefore have helped cultivate the 'non-decision-making' effect of climate scepticism. The gridlock over carbon pricing has hamstrung political deliberation and devolved into unserious posturing (Antonio & Brulle, 2011).

On a more positive note, it seems possibilities have opened up out of the campaign to repeal the carbon price. Conservative resistance has clearly undermined the degree of public consent for carbon pricing as the flagship policy in the late 2000s, and has reduced the sense of urgency about climate change (see figure 5.1). But these developments have also created new legitimacy issues for the present government, whose alternative climate policy is unpopular, and whose support for the coal and gas industry is under question.

The DAP has not attracted support from the conservative intelligentsia. For instance, a journalist in *The Australian* newspaper argued Abbott's populism has created expensive public policy.

Tony Abbott rejects Julia Gillard's plans to put a price on carbon emissions as a great big new tax on everything. But his populism risks saddling Australia with a crazy quilt of hidden carbon prices that will cost much more to cut emissions, whatever you think of the science. (Stutchbury, 2010)

The worry of expensive carbon regulation is now a key critique used by commentators of all stripes (Edis, 2015; Robson, 2013; Stutchbury, 2010; *The Australian*, 2013). The LNP's alternative DAP has produced new complaints and confusions within the politics

of emissions regulation. No doubt with time, the DAP will face ongoing contestation over its distributive and socio-ecological impacts (or lack thereof).

With the broader crisis of politics in mind, there is cause to abandon attempts to make the case for carbon pricing, but rather focus on developing alternative policies and a transformatory economic imaginary. A popular political project for just energy transition is needed. This conclusion is in part based upon the evidence of new potentials in climate, or more rightly, energy activism, that campaigners have developed in the wake of climate policy failure.

Direct action by other means: Targeting fossil fuels and renewables

In Australia, it seems that a nascent ‘energy justice’ politics has been in the making particularly since 2010, but the historical origins trace to earlier climate and environmental mobilisations (see chapter 3 and 7). In response to expansions in mining and renewable energy markets new alliances are being built. More and more focus is going to different parts of the state, as well as citizen consumers, and corporate actors. There are new combinations of symbolic and policy politics visible.

From 2010, a good number of climate activists drifted away from the climate policy debate to pursue energy campaigns in more depth. Many escalated their focus on renewable energy and mining issues. The reasons for this are varied. A BZE member reflected that they didn’t participate in the carbon price campaign from 2010 onwards because they ‘were trying to create a broader narrative and we sort of just had our own agenda’ (Ogge, 2013). A community organiser working in North West NSW reflected that the carbon price negotiations didn’t connect to her concerns or values.

that stuff still does not appeal to me. I don’t care about those documents. It’s talking about people that I don’t care about .. I care about, health and water and future sustainability (Hogan, 2014)

The most important insight from Naomi and other community organisers is that they have abstained from climate policy processes, not because of an ideological opposition to market mechanisms (which is implied by Bond’s (2012a) conceptualisation of counter movements), but rather a sense that the carbon price debate was a political dead end for grassroots mobilisation. The potential for building collective power and the qualitative experience of politics was limited in the carbon price campaign. Most importantly, the drift away from climate policy as an issue arena was consensual. There was no repeat of the difficult split between movement groups in 2009 over whether or not to support a climate policy package.

The shift in social movement focus was a result of creative and pragmatic thinking about where political possibilities lie. Movement actors came to the conclusion that opportunities are to be found outside the debate over carbon pricing. Public intellectual and sustainability consultant Dan Cass reflected that his hope lies in ‘energy politics’. His reasoning was that public support for carbon pricing is not strong, but people like renewable energy. There is evidence of this in Climate Institute polling which showed a majority 76 per cent of people agree that ‘state governments should be putting in place incentives for more renewable energy such as wind farms’ (TCI, 2014: 19).

In effect, 2010 was remarkable not just because a deal for a carbon price was brokered. It was the year that the grassroots activists drifted away from the climate policy debate in favour of developing a more diverse field of energy campaigns. Greenpeace targeted the 10 coal power projects across Australia tabled for construction in 2010 (Greenpeace, undated). While the organisation paid plenty of attention to the ongoing carbon price debate, the feeling at the time was that the focus of climate campaigning needed to be more tangible.

we were trying to remind everyone that this was about real outcomes and the coal fired power stations that were closing in Australia, that's what we are here for. (Vincent, 2013)

This was a common sentiment. In Victoria, coal campaigning escalated. The Melbourne Quit Coal group was formed in 2010. An alliance of Melbourne groups successfully combined popular protest, legal challenges and financial campaigning to 'Stop HRL' a proposed new coal fired power station. In 2012, they succeeded (Greenpeace, 2010a).

By 2010 major coal and gas projects were coming on line. Fossil fuel campaigns everywhere were escalated. Coal mines on green field sites were on the planning table across NSW and Queensland, as were LNG plants in Western and Northern Australia, and 'unconventional' gas projects were spreading rapidly through rural Australia and some urban centres. Impacted communities began mobilising. This was clear case of market expansion creating reactive counter movements seeking protection. One Victorian CSG campaigner explained that coal and gas campaigning involves processes of 'deep organising' through community lead campaigns. She was inspired by this work, but unromantic about the contours of the situation.

it's just really interesting that we're put in this situation ... the reality is that we don't have the privilege of just campaigning to protect forests anymore, which is something that I would otherwise be passionate about, because they're trying to destroy the last arable land in Australia with blanket gas mining. (Aldenhoven, 2013)

The campaigns are defensive; they are counter movements against energy commodities. However, the character of the political mobilisation on these issues was the creative output of new alliances being built. The Lock the Gate Alliance (LtG) formed in 2010 has played a key role in coordinating landholders and residents opposing gas developments. LtG changed the shape of climate politics. In fact, they explicitly forged a different kind of movement organisation led by affected communities who were motivated by 'local' social and ecological concerns.

In parallel, renewable energy campaigns were stepping up a notch. BZE released their roadmap for transitioning the national electricity grid to 100% renewable energy (Wright & Hearps, 2010). Touring this Plan in communities and with decision makers was at its peak in 2010. The report was heavy on technical detail, and in that sense expresses a techno-market imaginary. In another, the report was a political intervention into the renewables debate. Unlike many analyses of that kind, the stationary energy plan became part of an ongoing community campaign. Mark Ogge reflected that there are 'a lot of reports that sit on shelves but we really wanted to do something with it' (Ogge, 2013). It was also a key influence in scenario modelling for 100% Renewables done by the energy market regulator at the Green's request in 2011 (Hollo, 2013).

Another new organisation, 100% Renewables was also set up in 2010 with the aim of mobilising community support for renewable energy, and to defend and extend renewable energy policies, including a Federal government feed-in tariff. The following year, BZE in alliance with the AYCC and others, began a campaign to replace a coal fired power station with solar thermal. This was about creating ‘a stepping stone for a stage to the bigger kind of vision’ (Ogge, 2013).

A smaller scale vision for new energy projects has also been developed through the work on ‘community renewable energy’. Community renewable projects have become the focus of many former CAG and sustainability group members. In 2011 the Community Power Agency (CPA) was set up by two climate activists with renewable energy expertise. They wanted to assist communities with plans for wind farms and solar projects. There are 28 existing community energy projects and nine NGOs working on community energy across Australia. (Ison et al., 2012). Jarra Hicks notes that it is ‘the void of climate policy that has been largely driving communities to pursue community energy projects’ (Hicks, 2014). She summarised the broader possibilities.

community energy’s attractive because it’s about redefining the economic system, it’s redefining people’s power.. and agency as well as being more sustainable in a bunch of ways as well as carbon reduction. (Hicks, 2014)

Overall, we can say that since 2010 energy campaigning has diversified greatly at the same time that the climate policy campaign struggled to cut through elite contention.

Towards an energy justice imaginary

The present period of Australian climate politics is an interregnum. The repeal of the ETS in June 2014 means that there is no legislated limit on national emissions. ENGOs are now seeking to influence the government’s alternative ‘Direct Action Plan’, but it is slow going. The public support for carbon pricing remains low at 34 per cent, and even lower for the Direct Action Plan at 22 per cent (TCI, 2014). Politically, we can say that climate policy reform has been thwarted and that effective Federal emissions legislation is more elusive than ever.

However, whilst the conflict over carbon pricing has played out, major transformations have taken hold in Australia’s energy markets. Coal electricity production has reduced from 77 per cent of the fuel mix in 2003-04 to 64 per cent in 2012-13. Gas, wind, and solar PV have grown 5, 20 and 49 per cent respectively in the year to 2012-13 (BREE, 2014). At the same time, coal and gas exports have grown steadily. Annual emissions associated with energy exports are 800Gt and outstrip the annual domestic emissions average of 550Gt (BZE, 2014: 13). In a variety of ways, campaigners continue to seek sway over the direction of these energy market transformations.

A number of former climate activists have put their energy into sustained campaigns at key sites of coal or gas expansion. There have been victories at James Price Point against an LNG plant outside Broome WA, in Sydney and Bentley NSW against CSG. Meanwhile, long battles are playing out from Gippsland in Victoria to Mackay in Queensland. The campaigners who first cut their teeth climate campaigning in urban centres have refocused. In the last four years, some have even packed up and moved to

coal and gas hotspots. Most crucially, resources are flowing with them through the support work of LtG, FOE, 350.org, Greenpeace and the Sunrise Project, an organisation setup to provide information, training, and funds for campaigns in strategic sites.

Hogan reflected that this is a ‘more mature’ movement (Hogan, 2014). Certainly, there were campaigners doing this kind of sustained organising work in mining issues for years. But the level of organisation in this generation of fossil fuel activism is novel, and has been building gradually over time. The philosophy behind it is:

Social change is not a linear process. We need to be dynamic and flexible to respond to a rapidly changing world (Sunrise Project, undated).

A Melbourne campaigner argued that campaigns are now addressing broader social issues, and this is a change for the better.

It’s about environmental justice and democracy. It’s about communities having the right to make decisions on developments in their local area. And for me that’s one of the most important transformations over recent years (Anonymous, 2013b).

Professionalisation is part of the trend, but is focused on place-based campaigning (Hutton, 2012). There are no shortcuts for building power at the community level (Rose, 2013). Providing wages for campaign coordinators and establishing resources is a necessary feature of sustained organising (Soutar, 2014). In terms of the social and political geography of struggles over coal and gas, the stakes are clearer and politics more grounded than the first upswell of climate activism. Over time, the technocratic talk about ‘climate emergency’, emissions targets and timetables has reduced.

Fossil fuel campaigns have escalated in their scope and saliency in public debate. Australian organisations are now part of an international campaign to target key sites of coal development worldwide. New export hubs planned for Australia are among the critical drivers of global coal expansion that must be stopped if the most dangerous scenario for climate change is to be avoided (Greenpeace, 2013b).

The local campaigns on the ground are effectively direct action on climate change by other means. In Australia, the Market Forces project (FOE) and 350.org have developed fossil fuel finance campaigns. Vincent defines financial campaigning as a range of activities including lobbying potential and current fossil fuel project financiers, acting as a watchdog on existing investment rules and regulations, and divestment campaigning. Divestment is a sub-strategy ‘about social credibility and social licence’ (Vincent, 2013).

The semiotics of climate campaigning have further developed as resistance to fossil fuel commodities. In a new iteration of the 350 campaign, fossil fuels have become symbolic and material sites of contestation. The symbolic focus on carbon targets has been translated into new representations of energy commodities. Bill McKibben’s (2012; 2009) ‘climate change maths’ identified that there was only so much coal, oil and gas the world could burn before breaching unsafe planetary boundaries. This shift has reflected and enhanced a parallel expert discourse of fossil fuels as ‘unburnable carbon’ (Climate Council, 2015; IEA, 2013; Leaton et al., 2013). In Australia, the case for

decommissioning old coal fired power stations is progressing (Caldecott et al., 2014). In other words, this emerging discourse is popularising the idea that climate protection requires retrenchment of fossil fuel markets.

Activist Justin Whelan observed that fossil fuel divestment has a similar strategic logic and normative claims to civil disobedience. The divestment movement is saying:

All other measures have failed, so therefore we are reduced to this. The fact we need to do a divestment campaign is a demonstration of both the extreme emergency we are in, and the complete lack of meaningful response from our government and indeed the fossil fuel industry itself to that emergency. (Whelan, 2013)

The divestment movement is also redefining corporate social responsibility as full abstention from fossil fuel markets, not just responsible use, or good practice (Whelan, 2013). 350.org campaigner Charlie Woods shared that divestment campaigning identifies fossil fuel companies as agents of inertia in climate politics. It breaks down the issue for the public. Rather than create an overwhelming picture of ‘the capitalist machine’ which switches people off, the divestment campaigns engage people as ‘citizen investors’.

each one of us in the decisions that we make with our money can affect that big machine. (Woods, 2013)

Wood hits on what Jasper calls a ‘non-decision’ in activist practice (Jasper, 2004). In this case, activists mobilise for energy market transition without using anti-capitalist political claims. And of course the views within the movement on capitalist social organisation are diverse and potentially a point of division.

There is a similar turn in renewable energy campaigning. Solar Citizens formed in 2013 (formerly 100 % Renewables). It was created as a body to represent people living in the nearly 2 million homes with solar PV or solar hot water installed. Solar Citizens founder Lindsay Soutar said the most exciting energy market development in the last two years is ‘the disruptive nature of solar PV and falling demand for electricity from the grid. It’s putting our whole energy system on the brink of a massive transformation’ (Soutar, 2014). The organisation’s strategy is to prevent measures to frustrate this transformation. Solar expansion has been ‘fought hard’. Her organisation’s opponents are energy generators, grid operators, retailers, and State governments that own the networks.

The struggle for energy market reform will take a long time. Jarra Hicks, an organiser from the Community Power Agency, reflected that she is ‘coming to a real appreciation for how much work at the front of a [community energy] project there is to do’ (Hicks, 2014). It takes time to work with communities and deal with challenges from dissenting individuals and organised anti-wind groups. Each project involves negotiating with grid companies and regulators over access. Hicks observed that there are ‘no clear rules around timeline or responsibility of who covers which costs’, and negotiations can take years. So there is a good deal of policy analysis and advocacy involved for the Community Power Agency in what is a fledgling arena of work. Put another way, it takes time to embed new energy economies into local and national culture and governance structures.

There is also an ongoing battle over the Federal government's Renewable Energy Target (RET), which was subject to yet another review under the Abbott government, and has been weakened. Once in government, senior LNP government members began rhetorically targeting renewable energy technologies as expensive and a 'blight on the landscape' (Bourke, 2014; Glenday, 2014). These are early signs that in the wake of carbon pricing, the ideological battle over carbon pricing could be repeated over renewable energy.

Crucially, these developments illustrate that contests over energy transition will not be free of contradictions and political dilemmas, and we should not assume a clean break from the difficult contention over carbon pricing. Renewable energy has historically developed through normative appeals to consensual technocratic governance and ecological modernisation in Europe (Barry et al., 2008; Toke, 2011). In Australia 'cost' and technical 'feasibility' frames are common in renewable energy narratives (Curran, 2012), which signals that economistic debates about the price of renewables mirrors contention over the costs of carbon. Further, there is evidence from Germany that climate scepticism correlates with less support for renewable energy (Engels et al., 2013). It seems more appropriate to anticipate continuity as well as change, even as symbolic and substantive governance reform begins to target energy markets with different, and hopefully more direct, forms of regulation.

The political dynamics surrounding fossil fuels bring to a head the question of how to conceive of, and secure, 'direct regulation' for both climate and eco-social stability. At present campaigns to stop new fossil fuel development are like firefighting in range of local battles (Rosewarne et al., 2014: 140). The emerging contests over coal and gas have been waged over established State and Federal laws which govern mineral ownership, mining license approvals, as well as provide for heritage and environmental protections. Laws governing resource extraction trace back to Australia's early colonial history, whereas environmental protections are more recent products of environmental campaigning to protect biodiversity, forests, and indigenous heritage since the 1970s (see chapter 3).

Reforming the laws and regulations that govern fossil fuels in order to address environmental and social issues raised by affected communities is difficult. The long list of issues that have arisen are testimony to this. The increased contention over new coal and gas projects have sparked court cases (EDO, 2015; Rose, 2007), reform of the EBPC Act to address risks to water from coal and gas mining (DOE, 2015c), a corruption inquiry in NSW (ICAC, 2013), a temporary State moratorium on new CSG licences (Nicholls, 2014), and some CSG license buy-backs (Davies, 2015). Substantive policy outcomes from these contests are still in play, as are a number of major new mine and port decisions. The dynamics of these battles against coal and gas are interesting to observe, particularly because of the new values, new alliances, and forms of political action being experimented with in Australia, North America and elsewhere (see Bell, 2009; Bell & York, 2010; Connor, 2012; Connor et al., 2009). However, the political question of how to halt fossil fuel commodities at the scale and speed necessary remains unanswered.

The battles over energy are clearly going to be long, but the urgency of the climate issue is a continuing reality. Spratt expressed concern that energy campaigning has shifted too far away from the climate issue.

I really don't think you can produce profound social transformation about a problem by not talking about the problem. (Spratt, 2013)

This is perhaps an embellishment; the climate frame is never that far from the political debate, with the most recent example being the Abbott Point coal terminal campaign that has included a focus on the direct impact of dredging on the Great Barrier Reef, as well as the broader impact of climate change in a court case. More than a communication or framing issue, the ongoing strategic dilemmas for environmentalists and their allies pertain to how, and whether, the state can be moved to limit capital's access to fossil fuels. My concluding remarks reflect on the possibilities for a different kind of politics and new claims on the state for a just energy transition.

Conclusion

This chapter has illustrated some of the connections between marketised climate governance and the normative content of politics. Forging a constituency and popular movement for carbon pricing has proven difficult. Whilst social democratic parties, experts and campaigners argue that carbon pricing is a cost efficient approach to emissions management. Conservative opponents have argued against these claims forcefully, tapping into concerns in society about rising costs of living associated with existing governance failure playing out in the national electricity market.

In order to realise the goal of repealing the carbon price, a conservative counter movement leveraged the contradictions of both carbon taxation and carbon trading policy. The following dimensions of Australia's CEF package were important points of critique for conservatives: 1) the regressive intra- and inter-national distributive impacts of carbon pricing, 2) the fictitious nature of CO₂ commodities, and 3) fiscal burden on the state after factoring in industry and household protections. The conservative counter movement constantly argued that the carbon price was a 'great big new tax', that didn't reduce emissions, which created a technocratic bureaucracy, was costly to the public purse, and risked failures as per the EU experience.

There is a further element to this unruly contest. The conservative party's rhetorical banner of 'direct action' does not match its policy alternative - a weak competitive grants scheme for carbon abatement that has already attracted dissent. The counter movement's claim to offer a substantive alternate to carbon pricing is questionable. The repeal of the ETS and the shift to Direct Action is a double-edged victory for the conservative counter movement which now perhaps regrets developing a climate policy based on a slogan. Polanyi's (2001[1944]: 147) famous dictum applies to this situation in a modified form. It seems: Marketisation of climate policy was planned; the LNP's Direct Action Plan was not.

In response to the conservative counter movement, key carbon pricing advocates have concluded that the political challenge was about 'framing' and narrative only. I have taken issue with this diagnosis, arguing there is a deeper crisis of legitimacy in play for the political class, and for the project of technocratic climate governance. Meanwhile,

environmentalists have exited the debate over carbon pricing in favour of mobilising against fossil fuel expansion, and for renewable energy. They are creating a normative vision for energy market transformation. The drift away from climate policy is consensual, and not based on hostilities between movements groups. These campaigns against fossil fuels and for renewable energy have had some impact on popular discourse since 2010.

The going is slow, however, for all campaigners looking for points of political leverage. The present period is a difficult and crucial moment for environmentalists and critical scholars in Australia. We are only just coming to terms with the style of conflict carbon pricing has generated, and what might be done to move beyond it. In the course of debate over Australia's ETS the contention has involved heated, confused, and sometimes disingenuous, discussions between conservatives and their opponents on the Left about the distributive impacts of pricing. Rather than assume conservatives are a one-directional political force, we should consider the entire field of cynical conflict over carbon pricing. The evidence produced in this thesis challenges the idea that conservative opposition alone is a sole reason for the political malaise which has taken hold in climate politics.

This chapter has developed a broader reading of the direction of contestation in Australia. At present, there is no dominant economic imaginary in climate politics. Both fossil fuels forever and techno-market imaginaries are in abeyance. The political difficulties surrounding carbon pricing has wider implications for marketised climate governance in Australia. The techno-market imaginary has proven to have limited popular purchase. Conservative opposition to carbon pricing in Australia has not successfully (re-)asserted the cultural hegemony fossil fuels. The notion that these commodities are fundamental to energy production and well-being in market society is now being tested as battles over fossil fuels and renewable energy play out.

Emerging challenges to the 'fossil fuels forever' economic imaginary can be put down to a combination of social movement mobilisations, the decline in the global coal trade and competition from, gas and renewables in energy markets. The value regime of fossil fuelled accumulation may have begun disembedding. Further, there appears to be a shift in the cultural political economy of climate change away from 'carbon' as a symbolic focal point in contestation to fossil fuel commodities. This is a shift toward more concrete political expressions of the need to limit energy commodities, protect mining affected communities in rural Australia, and pursue a just energy transition.

The debate over regulation is different when energy markets are the target of political contestation. Solar Citizens and community renewables campaigners are focused on the RET and various barriers to renewable energy grid access. Renewable energy campaigning certainly shares features of the techno-market vision, but there are signs of a break from the technocratic tendencies of climate policy campaigning, particularly in community and consumer-citizen renewable campaigning. The contest over coal and gas expansion has instigated contention over the State mineral resource allocation, planning regulations, and Federal environmental approvals process. This puts activists in numerous debates over a huge set of social and environmental issues with both State and Federal governments. And to date, there is no overarching policy or legislative response from the Australian state that addresses these concerns.

In light of these evolving directions of contestation, we can appreciate that an alternative, transformatory value regime in energy markets will be hard to realise. The implicit collective agenda is for just and direct mechanisms to transform energy markets. However, in the absence of an overarching legislative limit on fossil fuel markets, activists are unlikely to see the scale of change necessary. In many ways, the ‘new’ climate and energy politics has become a series of local battles.

There are some novel, as well as older strategic issues in play. For instance, campaigners may not be able to stop or slow down enough projects to avoid breaking the carbon budget. The hard going work of reforming and instigating new renewable energy regulations seems as if it could get bogged down in similar conflicts to those we have seen with carbon pricing. Ongoing engagement on one or both of these frontiers of energy campaigning may exhaust the resources and political momentum of movements over time, and will test the resolve of ‘unlikely’ alliances between farmers, indigenous groups, and urban environmentalists.

Further, a carbon price is almost certain to return in the Federal political process, risking a repeat of the difficult history of contestation detailed in this thesis. A re-writing of ‘Direct Action’ climate policy for energy transition and emission reduction is needed, but of course a return to traditional emissions regulation will also compel further contradictory dynamics. At some point, a ‘post-carbon’ transformation of energy markets is likely to require not just policy innovations, but a broader popular post-capitalist political project.

At present it seems that the arch of the Polanyian ‘double movement’ in energy markets is too long for activists to ensure they are re-embedded within a ‘safe’ climate and society. However, the story of campaigning told here, reminds us that social change is not linear or circular. New possibilities and the outcomes of movements cannot be predicted.

V *Conclusion*

This thesis has combined policy critique with analysis of political contestation in order to understand a case of climate governance failure. I have sought to demonstrate that in order to fully capture the nature of contestation over climate policy; we should attend to the political economy of the regulatory instruments under debate. The work is an attempt to go beyond constructivist accounts of competing climate policy discourses, by investigating the interconnections between political contestation and the underlying the contradictions and distributive dilemmas associated with marketised climate governance.

I have also made a point of not assuming we can know precisely why an instance of marketised climate governance fails at the outset. In the Australian case, we need to discover why and how the institution of a ‘price on carbon’ has been so troubled in substantive and socio-political terms. I argued that the question of energy transition underlies contemporary market society’s climate crisis. Without the historical link between market society and fossil fuels in mind, we risk producing scholarship that plays down key material and symbolic dimensions of the struggle over climate policy. Taking an historical view of the development of climate policy in Australia, I demonstrated that market mechanisms have been a vehicle for the state’s attempts to displace responsibility for climate mitigation away from energy and industrial producers, to land sectors in rural Australia and the Asia-Pacific.

Most importantly, this thesis demonstrates theoretically and empirically why we should not take the political promise of marketised climate governance at face value. A viable source of ‘green growth’ through carbon pricing and other market mechanisms has not been realised in Australia and. In one sense this is to be expected, given the contradictory nature of international climate law and marketised emissions regulation.

In another sense, there is a lot we couldn't anticipate about the failure of carbon pricing in Australian Parliament, and even less we could have predicted about the normative consequences of the carbon price debate.

The majority of this thesis has been dedicated to documenting the substantive and socio-political dimensions of the failure of carbon pricing. Various attempts to institute carbon pricing in Australia and the Asia-Pacific have not succeeded, and in some instances pre-existing governance failures have been aggravated. This is evidence of the limitations of neoclassical economic thought insofar as the justification for carbon pricing stems from a naïve and disembedded view of economic relations. Further, the drawn out national debate and repeal of the carbon price in Australia is an illustration that the 'techno-market' imaginary for a new carbon economy has not realised hegemonic status.

Importantly, in the wake of the failure of carbon pricing there is a kind of interregnum in the climate debate in Australia. Tracing the recent history of conservative and environmental counter movement mobilisations, I contend that there is evidence that the hegemony of fossil fuels may also be fracturing, and a nascent energy justice imaginary holds promise.

Argument summary and contribution

This thesis addressed the question, how can we best theorise the relationship between political contestation and the process of instituting a carbon price? Through an extensive literature review I have argued that all scholarship on carbon pricing offers an implicit or explicit theory of the politics of putting a price on carbon, and sometimes of climate politics more generally (chapter 1). I identified four main definitions of carbon pricing politics: as policy incoherence; as a result of ideational diffusion and strategic positioning of state and non-state actors; as heterogeneous relations within and beyond formal policy processes; and as conflict over marketisation.

Situating myself in the field, I argued for a heterodox political economy of carbon pricing that draws out the links between polyvalent social struggle over climate change and the process of instituting marketised climate policy. Carbon prices are a particular form of marketisation. Carbon pricing reforms express a contradiction between the state's role in securing access to the conditions of fossil fuel production and socio-ecological reproduction (chapter 2). The contradiction between marketisation and climate protection is *internal* to the instrument, which is not an accumulation strategy in its own right, but rather a political tool for states to manage their competing responsibilities.

This critical reading of the political economy of carbon pricing allows us to revisit the fundamental importance of the state in marketised climate governance, as well as the persistence of dilemmas over energy transition. International and national contests over access to emissions rights, compliance exemptions, carbon caps, and so on, refract the underlying question of whether the state will move to limit capital's access to the carbon commons, notably fossil fuel deposits (as well as forests, oceans, soils and other parts of land ecosystems). In Australia, carbon pricing is an unsuccessful state strategy to avoid this task (chapter 3), which is failing and politically unstable.

In the course of discussion I have problematised uncritical use of Polanyi's double movement metaphor in climate politics and policy scholarship. In contrast to simplistic depictions of the struggle over carbon pricing as a neat division between forces for and against carbon commodification, this thesis illustrates that there is a more complex dialectic at play. Struggles over carbon pricing are variously waged between competing states, fractions of capital, environmental, labour, and conservative movement organisations, expert elites, and affected communities. Political contests take particular material and symbolic forms depending on the international and national social formations involved. Further, the relative ease with which parts of 'nature' can be brought into new forms of marketised regulation is also a key factor co-constituting the fate of carbon pricing schemes. The prospects of legitimate and effective carbon pricing cannot be asserted in principle; rather they must be examined empirically.

This work emphasised the way in which carbon prices are instituted as 'end-of-pipe' reforms, managing so-called market externalities (chapter 6). Using examples from the energy and land sectors, it demonstrated that carbon pricing does not deal with, and in fact exacerbates some ongoing issues of governance failure, such as inefficiencies and over-investment in electricity utilities, and contested and difficult land rights and land management issues in Australia and the global South. Most of these issues hold for carbon trading, however the limitations carbon prices as a means to incentivise emissions reduction in the stationary energy sectors hold for both carbon trading and carbon taxation.

The thesis shows that the evident flaws of marketised climate governance are integral to our understanding of the politics of carbon pricing, not least because the merits of the this approach defined against other policy options, have to be constantly defended by advocates against all kinds of critics (chapter 8). Being precise about the institutional failures evident in carbon pricing reforms is also crucial. Dismissing carbon pricing as a 'market fix' without explicating how and why it fails, does not progress political debate; nor does silence on the matters discussed in this thesis.

In light of the persistence of carbon pricing as a kind of default policy option for reluctant states, being agnostic about the question of whether marketised climate governance can deliver meaningful emissions reduction also diminishes the quality of debate. More than ever, we are in need serious critical inquiry into the political economy of carbon pricing. There is also a need to debate the broader project of 'climate capitalism' as a desirable goal for Australia and societies across the world.

On the basis of this analysis, there is cause to conclude that carbon pricing has stymied emissions reduction and energy transformation in material and political terms. However, the reasons for this are much more complex than implied in less empirically grounded critiques of carbon pricing politics. From the Australian case, we can see that the failures of carbon pricing are both substantive and socio-political. They are bound up in Western democratic parliamentary politics, failed neocolonial excursions into the South in the search for carbon sinks, and the shifting strategies of labour organisations, environmentalists and experts. With these strands of contention in mind, we can appreciate that the socio-political failures of carbon pricing very clearly exhibit dynamics of legitimation and delegitimation. Further, the most important finding of this study is that contention over carbon pricing in Australia, and climate change more generally, is highly unstable terrain, that is shifting in a number of directions.

My analysis of contestation over the CPRS attends to the strategic errors of the Labour Party in parliament and the broader field of political mobilisation by fractions of capital, labour organisations and environmentalists (chapter 4). This moment of contestation illustrates the symbolic and instrumental power of the fossil fuel lobby to secure favourable policy design and public transfers of wealth in their direction through carbon pricing policy. That period is also marked by considerable dissensus in civil society about how to go about instituting a carbon price and whether the CPRS was enough.

I use the failure of the CPRS to explore the end of ‘carbon consensus’ in empirical detail. Looking closely at the normative dimensions of the CPRS debate, I argued that the political conflict illustrated the contradiction between moralism expressed by Rudd and technocratic emissions management, as well as the limited power of Australia’s ‘climate action’ movement to trigger the departure from politics as usual (chapter 7).

The thesis also investigated the twist of political fate that saw a carbon price instituted in 2011, and the subsequent repeal of this legislation by the present conservative government (chapter 5). I have offered a reading of the eventual fall of the carbon price that goes beyond a singular focus on strategic errors made in Parliament, by drawing attention to ongoing divisions and the broader difficulties of popularising technocratic climate reforms. The CEF legislative package reflected a progressive technocratic ethos, perhaps even more so than the CPRS. The Greens negotiated the inclusion of independent authorities to advise and oversee the carbon price, the RET, and a new green bank. These new bodies, and the appointment of expert scientists and economists, were understood by the Greens and their allies as a means to progress further climate action through the state. However, this appeal to expert governance, among a long list of other improvements to the CEF package, was contested by conservative opponents in Parliament and in the media from 2010.

A significant part of the failure of carbon pricing is due to the symbolic and material power of the conservative movement (chapter 8). The conservative mobilisation against the carbon price has undermined the utopian hope of experts and climate advocates that carbon pricing can be secured as common ‘apolitical’ ground in the climate debate. Conservatives within the LNP, media and civil society have argued against carbon pricing and publicly claimed allegiance to fossil fuel capital, but there is a broader cultural and ideological contest going on. A crisis of legitimacy is playing out for both major political parties on the climate question (amongst other issues). Popular support for carbon pricing seems impossible, at least in the near future of Australian political debate.

In light of the failure of carbon pricing, the thesis points to the implications of shifting strategies of environmentalists (chapter 8). Carbon pricing campaigns have been the most difficult arena of environmental campaigning since 2007. There is reason to think that ‘insider politics’ negotiating carbon pricing design amongst experts and a small group of ENGO campaigners has not delivered many substantive improvements to legislative outcomes. More fundamentally, environmentalists have either been edged out of elite carbon pricing politics, or they have opted out, in favour of parallel energy campaigns.

These campaigns are maturing. They are focused on different symbolic and material dimensions of the climate crisis. This is in part a response to climate policy failure; part defensive campaigning against the socio-ecological impacts of the resource boom; and part prefigurative resistance for just energy transformation. The conclusion of this thesis is that ‘energy politics’ is a much more fruitful arena of political mobilisation than carbon pricing politics.

Ideas for future research

This thesis inspires a series of important comparative questions, particularly with regard to the finding that the state has unsuccessfully developed market mechanisms in order to displace its climate responsibilities. Following up on this, we should ask, is the failure of carbon pricing in Australia an Antipodean exception? Or are there comparable political economic dynamics in other nations? Are the parallels more salient in other settler societies? Only in-depth comparative analysis can deliver answers.

The findings of this study also point to the need for revision of accepted climate policy genealogies and explanations for the ways market mechanisms travelled from North America, to Europe and elsewhere. We should ask, how and why do nations outside these locations create carbon pricing instruments? An extensive history of how and why Australian bureaucrats and Members of Parliament took up the notion of carbon pricing was not possible here. However, the evidence from documentary sources illustrates a clear protectionist agenda, aimed at conserving Australia’s extractive mode of development. Australian state officials and economists have been important ‘policy entrepreneurs’ in debates over land carbon. The political agency of these actors, as well as others from postcolonial societies, are important to document if we are to have a truly global picture of the historical and contemporary development of marketised climate governance. This line of questioning is all the more important because China will embark on a national ETS from 2016.

Finally, new policy and political questions have been raised by mobilisations against fossil fuels and for renewable energy. There is more work to be done investigating the novelty of the turn to energy politics, and on what basis it might transcend the political dilemmas associated with pricing carbon. Can energy transition be compelled through alternate political means? What might effective energy policy look like in the context of electricity privatisation? What are the trade implications if energy exports were to be limited? Developing substantive and socio-political answers to the above questions will be hard but important questions for further research, including comparative investigations into energy transition in the North and South.

Appendix A

Versions of the Australian carbon price

	Garnaut 2008	CPRS	CEF
Targets	5% reduction on 2000 levels by 2020 (conditional 25-40% reduction by 2020) 90% reduction on 2000 levels by 2050	5% reduction on 2000 levels by 2020 (conditional 15-25 % reduction by 2020) 60% reduction on 2000 levels by 2050	5% reduction on 2000 levels by 2020 (conditional 15-25 % reduction by 2020) 80% reduction on 2000 levels by 2050
Start	1 July 2010	1 July 2011	1 July 2012 (ended June 2014)
Price	Fixed price \$20 tCO ₂ -e for 2 years Floating carbon pricing in 2012	Fixed price at \$10 for 1 year Floating carbon price in 2012 (\$40 per tCO ₂ -e price cap for 5 years)	Fixed price at \$23 per tCO ₂ -e for 3 years (rising 2.5% pa). Floating price from 2015 (or 2014 if elected)
Coverage	Wide as possible coverage <i>6 ghg gases:</i> carbon dioxide, methane; nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride <i>Industry sectors:</i> stationary energy, industrial processes, fugitives and transport should be covered from the outset. Waste and forestry should be covered as soon as practicable.	80% national emissions <i>6 ghg gases:</i> carbon dioxide, methane; nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride <i>Industry sectors:</i> stationary energy, non-legacy waste, industrial processes, and fugitive emissions other than from decommissioned coal mines. <i>Entities</i> with least one facility that directly emits at least 25,000 tCO ₂ -e pa (except for some waste facilities) Approximately 1000 companies	50% national emissions (further 10% covered by fuel excise) <i>4 ghg gases:</i> carbon dioxide, methane, nitrous oxide and perfluorocarbon emissions from the aluminium sector <i>Industry sectors:</i> stationary energy, non-legacy waste, industrial processes, and fugitive emissions other than from decommissioned coal mines <i>Entities</i> with least one facility that directly emits at least 25,000 tCO ₂ -e pa (except for some waste facilities) Approximately 300 companies

Appendix A

	Garnaut 2008	CPRS	CEF
<i>Exemptions</i>	The inclusion of agriculture should be subject to progress on measurement, administration and cost effectiveness.	Agricultural sector (land offset scheme announced November 2009), forestry and closed landfills exempt	Agricultural sector exempt Transport fuels (but equivalent tax fuel excise on heavy users)
<i>Trading</i>	Unlimited trading of permits (no date stamping, unlimited banking)	Unlimited trading of permits (no date stamping, unlimited banking)	Unlimited trading of permits (no date stamping, unlimited banking)
<i>Offsets</i>	Domestic offsets in uncovered sectors. Unlimited offset credits for net sequestration from forestry and potentially soil management.	Domestic forestry sector able to opt in Voluntary scheme for agricultural offsets Unlimited international offsets A/R CERs not recognised Non-Kyoto units not for compliance	CFI - voluntary scheme for forestry and agricultural offsets (unlimited) 50 % of credits retired may be international units (37.5% EUAs, 12.5% CERs and ERUs) CERs exempt: A/R, nuclear, industrial gas, and some hydro-electric dam projects Non-Kyoto units produced through CFI not for compliance
<i>EITE compensation</i>	Transitional financial assistance to account for distortions arising from major trading competitors Targeted assistance for coal generators and affected regions e.g. La Trobe Valley	\$15.1 billion over 5 years (2012-13 to 2016-17)	\$9.2 billion over 3 years (2012-13 - 2014-15)
<i>Household compensation</i>	At least half the proceeds from the sale of all permits allocated to households, passed through the tax and social security systems, with energy efficiency commitments to low-income households in the early years.	Compensation for approximately 90 per cent of households through tax and social security \$2.75 billion Climate Change Action Fund Fuel tax adjustment: 'cent-for-cent' fuel tax reduction for 3 years.	Compensation for approximately 90 per cent of households through tax and social security Energy affordability schemes for low income households

Appendix A

	Garnaut 2008	CPRS	CEF
<i>Governance</i>	<p>Government set emissions limits, market rules, permit auctioning/allocation, assistance payments and international treaty obligations.</p> <p>Independent regulatory authority similar to the Reserve Bank monitors market, enforces compliance, advises Government on issues like market rules.</p>	<p>Government set emissions limits, market rules, permit auctioning/allocation, assistance payments and international treaty obligations.</p> <p>Independent regulator to oversee ETS and renewable energy target (Australian Climate Change Regulatory Authority)</p>	<p>Government set emissions limits, market rules, permit auctioning/allocation, assistance payments and international treaty obligations.</p> <p>Climate Change Authority to advise on pollution caps and progress towards meeting targets and undertake reviews of the carbon pricing Mechanism.</p> <p>Clean Energy Regulator to administer the carbon pricing mechanism.</p> <p>Productivity Commission reviews of industry assistance, fuel tax arrangements and carbon pollution reduction activities internationally.</p>

Appendix B



PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM

Approval No (13 039)

Climate for change? The politics of climate change and energy in Australia

Participant selection and purpose of study

You are invited to participate in a study of civil society's role in the climate and energy debate in Australia. I (Rebecca Pearse) hope to learn about the influence of civil society actors in debates over government policy for emissions reduction and reform of energy and resource markets. You were selected as a possible participant in this study because of your contribution to the public debate over climate change and resource industry issues in Australia.

Description of study and risks

If you decide to participate, I will conduct a short (30 minutes to 1 hour) semi-structured interview, in which I (Rebecca Pearse) will engage you (the participant) in a discussion about the politics of climate change, fossil fuels and carbon trading markets.

The interview will be conducted at your convenience and is not likely take longer than an hour.

With your permission, the interview will be recorded using an audiotape recorder, to ensure the researcher has an accurate collection and reproduction of the information given. This recording will be stored in a secure location before being destroyed as per University policy. The participant may request not to be recorded.

Confidentiality and disclosure of information

You have been selected because your thoughts and opinions on this topic are important. Any information that is obtained in connection with this study will be identified with you unless you elect to remain anonymous. If you give your permission by signing this document, I plan to use the material in a doctoral thesis and academic papers. In any publication, you will be identified in the manner you elect. If you elect to be anonymous, any data used from this interview will be assigned a pseudonym in order that you cannot be identified.

Complaints may be directed to the Ethics Secretariat, The University of New South Wales, SYDNEY 2052 AUSTRALIA (phone +61 (0)2 9385 4234, fax +61 (0)2 9385 6648, email ethics_sec@unsw.edu.au). Any complaint you make will be investigated promptly and you will be informed of the outcome.

Feedback to participants

A short summary of the research findings as well as access to the completed thesis will be made available to you via personal correspondence, at the end of the project.

Your consent

Your decision whether or not to participate will not prejudice your future relations with the University of New South Wales. I cannot and do not guarantee any benefits from participation. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without prejudice.

If you have any questions, please feel free to ask us. If you have any additional questions later, please contact Ms. Rebecca Pearse, phone +61 (0)405 105 101 (Australia) or Professor Marc Williams, phone +61 (0)2 9385 2394.

You will be given a copy of this form to keep.

THE UNIVERSITY OF NEW SOUTH WALES
PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM (continued)

Climate for change? The politics of climate change and energy in Australia

Please nominate how you wish to be identified in research publications created with data from this interview.

Name:

Title:

.....

.....

OR

I do not want a name and/or title attributed to me [please check box to select this option]

☐

I understand that choosing this option means that my anonymity will be protected and no data that may identify me to others will be used.

You are making a decision whether or not to participate. Your signature indicates that, having read the information provided above, you have decided to participate.

.....
Signature of Research Participant

.....
Signature of Witness

.....
(Please PRINT name)

.....
(Please PRINT name)

.....
Date

.....
Nature of Witness

REVOCATION OF CONSENT

Climate for change? The politics of climate change and energy in Australia

I hereby wish to **WITHDRAW** my consent to participate in the research proposal described above and understand that such withdrawal **WILL NOT** jeopardise any treatment or my relationship with The University of New South Wales.

.....
Signature

.....
Date

.....
Please PRINT Name

The section for Revocation of Consent should be forwarded to:

Rebecca Pearse
C/O Marc Williams
Rm 116 Morven Brown Bldg
School of Social Sciences
University of NSW AUSTRALIA 2052

Ph. 0405 105 101 (Pearse)
E: rebecca.pearse@unsw.edu.au
Ph: 9385 2394 (Williams)
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References

- AAP (2009), 'ETS a 'lemon' - Hunt', *The Australian*, 11 March.
- ABARE (1992), *Reducing Greenhouse Gas Emissions From the Energy Sector*, Australian Bureau of Agricultural and Resource Economics, Canberra: Commonwealth of Australia.
- ABARE (1993), *A Tradable Emissions Permits Scheme*, Australian Bureau of Agricultural and Resource Economics, Canberra: Commonwealth of Australia,.
- ABARE (1997), *International Climate Change Policy: Economic Implications for Australia*, Australian Bureau of Agricultural and Resource Economics, Canberra: Commonwealth of Australia.
- Abbott, T. (2011), 'Speech', *No Carbon Tax Rally*, 16 August, Canberra.
- Abbott, T. (2014), *Address to the Minerals Week 2014 Annual Minerals Industry Parliamentary Dinner*, Prime Minister of Australia, 28 May, <<http://www.pm.gov.au/media/2014-05-28/address-minerals-week-2014-annual-minerals-industry-parliamentary-dinner-canberra-0>>.
- ABC (2006), *The Greenhouse Mafia*, Four Corners, ABC, 13 February.
- ABC (2009a), *Emissions trading plans meet hostile Opposition*, Inside Business, 15 March.
- ABC (2009b), 'Heat on the Hill', *Four Corners*, 9 March.
- ABC (2009c), *Malcolm and the Malcontents*, Four Corners, ABC, 13 February.
- ABC (2011a), 'Cattlemen worried about de-stocking of Henbury Station', *ABC Rural*, 28 July.
- ABC (2011b), *Celebrity support for carbon tax draws criticism*, Lateline, ABC, 30 May.
- ABC (2011c), 'Combet accuses Abbott of climate change racism', *ABC News*, 23 August.
- ABC (2011d), *Gas Rush*, Four Corners, Matthew Carney, 21 February.
- ABC (2011e), 'Opposition says Government carbon tax plan is a great betrayal', *ABC News*, 24 February.
- ABC (2012a), *The carbon tax will not change: Milne*, Lateline, 9 May.
- ABC (2012b), *Casualties of the Boom*, Four Corners, 21 February.
- ABC (2012c), 'Contract for closure off', *ABC Gippsland*, 6 September.
- ABC (2013), 'Greens deputy Adam Bandt defends bushfire attack on Tony Abbott', *ABC News*, 18 October.
- ABC (2014), 'Coal 'good for humanity', Prime Minister Tony Abbott says at \$3.9b Queensland mine opening', *ABC News*, 13 October.
- ABS (2000), *Special Article - The Australian Mining Industry: From Settlement to 2000*, Canberra: Australian Bureau of Statistics.
- ABS (2013), *Chapter 5: Greenhous gas emissions*, 4655.0.55.002 - Information Paper: Towards the Australian Environmental-Economic Accounts, 2013 Canberra: Australian Bureau of Statistics.
- ACA (2009), *Cut Emissions, Not Jobs*, Australian Coal Association, <<http://www.cutemissionsnotjobs.com.au/>>.
- ACF (2001), *Australian Land Clearing, A Global Perspective: Latest Facts & Figures*, Melbourne: Australian Conservation Foundation.
- ACF (2014), *Giving with Both Hands: Adding up the Federal Handouts that Encourage Pollution*, Melbourne: Australian Conservation Foundation.

References

- ACOSS (2011), *The Clean Energy Future Package, Households on Low Incomes and the Community Services Sector: A Briefing on the Australian Government's Climate Change Plan*, Sydney: Australian Council of Social Services.
- ADB & RECOFTC (2010), *National REDD+ Strategies in Asia and the Pacific: Progress and Challenges*, Mandaluypong City: Asia Development Bank and Center for People and Forests.
- AER (2014), *State of the Energy Market 2014*, Melbourne: Australian Energy Regulator.
- AFR (2010), 'Kevin Rudd's polling since 2006', *Australian Financial Review*, 24 June.
- AGO (1999a), *National Emissions Trading: Crediting the Carbon*, Australian Greenhouse Office, Canberra: Commonwealth of Australia.
- AGO (1999b), *National Emissions Trading: Designing the Market*, Australian Greenhouse Office, Canberra: Commonwealth of Australia.
- AGO (1999c), *National Emissions Trading: Establishing the Boundaries*, Australian Greenhouse Office, Canberra: Commonwealth of Australia.
- AGO (1999d), *National Emissions Trading: Issuing the Permits*, Australian Greenhouse Office, Canberra: Commonwealth of Australia.
- AGO (2000), *Land Clearing: A Social History*, Australian Greenhouse Office, Canberra: Commonwealth of Australia.
- AGO (2005), *Greenhouse Gas Emissions from Land-Use Change in Australia: Results of the National Carbon Accounting System 1988–2003*, Australian Greenhouse Office, Canberra: Commonwealth of Australia.
- Agrawala, S. (1998a), 'Context and early origins of the Intergovernmental Panel on Climate Change', *Climatic Change*, 39(4): 605-620.
- Agrawala, S. (1998b), 'Structural and process history of the Intergovernmental Panel on Climate Change', *Climatic Change*, 39(4): 621-642.
- Albrechtsen, J. (2011), 'Mind the gap on climate ', *The Australian*, 8 June.
- Aldenhoven, C. (2013), Interview 14, 29 November, Melbourne.
- Aldred, J. (2012), 'The ethics of emissions trading', *New Political Economy*, 17(3): 339-360.
- Aldy, J.E. & Stavins, R.N. (2012), 'The promise and problems of pricing carbon: Theory and experience', *The Journal of Environment & Development*, 21(2): 152-180.
- Allison, S. & Palmer, A. (2013), 'Yes, EU uses direct action', *The Australian*, 21 August.
- ALP (2007), *Kevin07*, kevin07.com.au, Australian Labor Party, viewed 1 November 2014 <<http://pandora.nla.gov.au/pan/75521/20071126-1124/www.kevin07.com.au/index.html>>.
- Altvater, E. (2007), 'The social and natural environment of fossil capitalism', *Socialist Register: Coming to Terms with Nature*, 43: 37-59.
- AMEC (1990), *Energy and the Greenhouse Effect*, Canberra: Australian Minerals and Energy Council, AGPS.
- Anderson, B. (1983), *Imagined Communities*, London: Verso.
- Anderson, T.L. & Leal, D.R. (1992), 'Free market versus political environmentalism', *Harvard Journal of Law & Public Policy*, 15: 297-310.
- Anderson, T.L. & Leal, D.R. (2001), *Free Market Environmentalism*, New York: Palgrave.
- Anderson, T.L. & Leal, D.R. (eds) (2015), *Free Market Environmentalism for the Next Generation*, New York: Palgrave.

- Andrew, J., Kaidonis, M.A. & Andrew, B. (2010), 'Carbon tax: Challenging neoliberal solutions to climate change', *Critical Perspectives on Accounting*, 21(7): 611-618.
- Anonymous (2013a), Interview 02, 19 November, Sydney.
- Anonymous (2013b), Interview 15, 29 November, Melbourne.
- Anonymous (2014a), Interview 29, 22 January, Sydney.
- Anonymous (2014b), Interview 35, 30 January, Brisbane.
- Anonymous (2014c), Interview 37, 3 February, Melbourne.
- Anonymous (2014d), Interview 44, 11 February, Canberra.
- Antonio, R.J. & Brulle, R.J. (2011), 'The unbearable lightness of politics: Climate change denial and political polarization', *The Sociological Quarterly*, 52(2): 195-202.
- Arup, T. (2009), 'Turnbull wheels out hybrid model', *Sydney Morning Herald*, 11 August.
- Arup, T. (2014), 'Forestry industry out on a limb', *Sydney Morning Herald*, 9 August.
- Aston, H. & Kenny, M. (2013), 'Abbott hit by backlash', *Sydney Morning Herald*, 16 July.
- Australia Indonesia Partnership (2009), *Kalimantan Forests and Climate Partnership (KFCP) Design Document*, Central Kalimantan: Indonesia-Australian Forest Carbon Partnership.
- Australian Embassy Jakarta (2011), *Community Concerns with the KFCP*, Letter to Muliadi S. E. Executive Director Yayasan Petak Danum Kalimantan Tengah.
- Australian Government (2007), *Report of the Task Group on Emissions Trading*, Canberra: Prime Ministerial Task Group on Emissions Trading.
- Bachram, H. (2004), 'Climate fraud and carbon colonialism: The new trade in greenhouse gases', *Capitalism Nature Socialism*, 15(4): 1-16.
- Bäckstrand, K. (2008), 'Accountability of networked climate governance: The rise of transnational climate partnerships', *Global Environmental Politics*, 8(3): 74-102.
- Bäckstrand, K. & Lövbrand, E. (2006), 'Planting trees to mitigate climate change: Contested discourses of ecological modernization, green governmentality and civic environmentalism', *Global Environmental Politics*, 6(1): 50-75.
- Badiou, A. (2005), 'Politics: A Non-expressive Dialectics', paper presented to the *Is the Politics of Truth still Thinkable?*, Birkbeck Institute for the Humanities, Birkbeck College, London, November.
- Bailey, I. (2007), 'Neoliberalism, climate governance and the scalar politics of EU emissions trading', *Area*, 39(4): 431-442.
- Bailey, I., Gouldson, A. & Newell, P. (2011), 'Ecological modernisation and the governance of carbon: A critical analysis', *Antipode*, 43(2): 682-703.
- Bailey, I., MacGill, I., Passey, R. & Compston, H. (2012), 'The fall (and rise) of carbon pricing in Australia: A political strategy analysis of the carbon pollution reduction scheme', *Environmental Politics*, 21(5): 691-711.
- Bailey, I. & Maresh, S. (2009), 'Scales and networks of neoliberal climate governance: The regulatory and territorial logics of European Union emissions trading', *Transactions of the Institute of British Geographers*, 34(4): 445-461.
- Bakker, K. (2003a), 'A political ecology of water privatization', *Studies in Political Economy*, 70: 35-58.
- Bakker, K. (2003b), *An Uncooperative Commodity: Privatizing Water in England and Wales*, Oxford: Oxford University Press.

- Bakker, K. (2005), 'Neoliberalizing nature? Market environmentalism in water supply in England and Wales', *Annals of the Association of American Geographers*, 95(3): 542–565.
- Bakker, K. (2010a), 'The limits of 'neoliberal natures': Debating green neoliberalism', *Progress in Human Geography*, 34(6): 715-735.
- Bakker, K. (2010b), *Privatizing Water: Governance Failure and the World's Urban Water Crisis*, New York: Cornell University Press.
- Ball, S.J. (1993), 'What is policy? Texts, trajectories and toolboxes', *The Australian Journal of Education Studies*, 13(2): 10-17.
- Bandt, A. (2013), 'By repealing the carbon tax, Tony Abbott is failing to protect his people ', *The Guardian*, 16 October.
- Barry, J., Ellis, G. & Robinson, C. (2008), 'Cool rationalities and hot air: A rhetorical approach to understanding debates on renewable energy', *Global environmental politics*, 8(2): 67-98.
- Bast, E., Makhijani, S., Pickard, S. & Whitley, S. (2014), *The Fossil Fuel Bailout: G20 Subsidies for Oil, Gas and Coal Exploration*, London and Washington DC: Overseas Development Institute and Oil Change International.
- Bauman, Z. (2012), 'Times of interregnum', *Ethics & Global Politics*, 5(1): 49-56.
- Bayon, R., Hawn, A. & Hamilton, K. (2007), *Voluntary Carbon Markets: An International Business Guide to What They Are and How They Work*, London: Earthscan.
- Beasley, B. (2009), *Evidence to Senate Select Committee on Fuel and Energy, Interim Report: The CPRS: Economic Cost without Environmental Benefit*, May, Canberra: Hansard, Commonwealth of Australia.
- Beck, U. (1992a), 'From industrial society to the risk society: Questions of survival, social structure and ecological enlightenment', *Theory, Culture & Society*, 9(1): 97-123.
- Beck, U. (1992b), *Risk Society: Towards a New Modernity*, London: Sage.
- Beder, S. (2003), *Power Play: The Fight for Control of the World's Electricity*, North Carlton: Scribe.
- Beeson, M. & Stone, D. (2013), 'The changing fortunes of a policy entrepreneur: The case of Ross Garnaut', *Australian Journal of Political Science*, 48(1): 1-14.
- Bell, S. (1995), 'Between the market and the state: The role of Australian business associations in public policy', *Comparative Politics*: 25-53.
- Bell, S. & Head, B. (1994), 'Australia's political economy: Themes and issues', in S. Bell & B. Head (eds), *State, Economy and Public Policy in Australia*, Oxford: Oxford University Press.
- Bell, S.E. (2009), "“There ain’t no bond in town like there used to be”: The destruction of social capital in the West Virginia coalfields', *Sociological Forum*, 24(3): 631-657.
- Bell, S.E. & York, R. (2010), 'Community economic identity: The coal industry and ideology construction in West Virginia', *Rural Sociology*, 75(1): 111-143.
- Berg, C. (2009a), 'Keeping up with Kevin: Kevin Rudd's testosterone technocracy', *The Institute of Public Affairs Review: A Quarterly Review of Politics and Public Affairs*, 61(1): 8-13.
- Berg, C. (2009b), 'The Libs: here’s what isn’t happening', *Crikey*, 1 December.
- Berg, C. (2011a), 'Artificial markets: miles behind the real deal', *The Drum ABC*, 1 March.
- Berg, C. (2011b), 'Too many economists in the carbon kitchen', *The Drum, ABC*, 20 July.

- Berg, C. (2013), 'Dumping the carbon tax without dumping anything', *The Drum ABC*, 16 July.
- Bernstein, S. (2005), 'Legitimacy in Global Environmental Governance', *Journal of International Law and International Relations*, 1(1-2): 139-166.
- Bernstein, S., Betsill, M., Hoffmann, M. & Paterson, M. (2010), 'A tale of two Copenhagens: Carbon markets and climate governance', *Millennium - Journal of International Studies*, 39(1): 161-173.
- Betsill, M. & Hoffmann, M.J. (2011), 'The contours of "cap and trade": The evolution of emissions trading systems for greenhouse gases', *Review of Policy Research*, 28(1): 83-106.
- Bishop, J. (2011), 'Carbon offsets have already run out of credit', *Sydney Morning Herald*, 20 July.
- Block, F. & Somers, M.R. (1984), 'Beyond the economistic fallacy: The holistic social science of Karl Polanyi', in T. Skocpol (ed.), *Vision and Method in Historical Sociology*, Cambridge: Cambridge University Press.
- Bodenham, P. & Cubby, B. (2011), 'Carbon cowboys', *Sydney Morning Herald*, 23 June.
- Böhm, S. & Dabhi, S. (eds) (2009), *Upsetting the Offset: The Political Economy of Carbon Markets*, London: Mayfly Books.
- Bond, P. (2012a), 'Emissions trading, new enclosures and eco-social contestation', *Antipode*, 44(3): 684-701.
- Bond, P. (2012b), *Politics of Climate Justice: Paralysis Above, Movement Below*, Scottsville: University of Kwazulu-Natal Press.
- Boswell, R. (2011), 'The real Julia is true to her socialist forum past', *The Australian*, 12 August.
- Bourke, L. (2014), 'Joe Hockey says wind turbines 'utterly offensive', flags budget cuts to clean energy schemes', *ABC News*, 2 May.
- Bradshaw, C.J.A. (2012), 'Little left to lose: Deforestation and forest degradation in Australia since European colonization', *Journal of Plant Ecology*, 5(1): 109-120.
- Brain, C. (2011), 'Giving cattle the boot in the name of carbon', *ABC Rural*, 27 July.
- Brain, C. (2012), 'RM Williams coy about value of Henbury carbon credits project', *ABC Rural*, 3 May.
- Brain, C. (2013a), 'CLC wants Henbury returned to traditional owners', *ABC Rural*, 3 September.
- Brain, C. (2013b), 'NT Government says Henbury carbon farming was "illegal"', *ABC Rural*, 3 September.
- Branger, F., Lecuyer, O. & Quirion, P. (2015), 'The European Union Emissions Trading Scheme: Should we throw the flagship out with the bathwater?', *Wiley Interdisciplinary Reviews: Climate Change*, 6(1): 9-16.
- Brann, M. (2013), 'Coalition critical of carbon farming knockbacks', *ABC Rural*, 17 January.
- Braun, M. (2008), 'The evolution of emissions trading in the European Union: The role of policy networks, knowledge and policy entrepreneurs', *Accounting, Organizations and Society*, 34: 469-487.
- BREE (2014), *2014 Australian Energy Update*, Bureau of Resources and Energy Economics, Canberra: Commonwealth of Australia.
- Brennan, P. et al. (2011), *Economists' Open Letter Supporting a Price on Carbon Pollution 2011* WWF, 2 June,
http://assets.wwfau.panda.org/downloads/cl040_open_letter_economists_supporting_a_price_on_carbon_pollution_2jun11.pdf.

- Bridge, G. (2013), 'Resource geographies II: The resource-state nexus', *Progress in Human Geography*, 38(1): 118-130.
- Bridge, G. & Jonas, A. (2002), 'Governing nature: The reregulation of resource access, production, and consumption', *Environment and Planning A*, 34(5): 759-766.
- Brown, B. (2009), *Bob Brown - the CPRS 'locks in failure'*, The Greens, 9 August, viewed 11 January 2014 <<http://greensmps.org.au/content/video/bob-brown-cprs-locks-failure>>.
- Bryan, D. (2010), 'Australian populism and the global financial crisis: Finding a place for labour', *Labour & Industry: A journal of the social and economic relations of work*, 20(3): 250-269.
- Bryant, G. (2014), *Climate change: Back to the market, or...?*, Progress in Political Economy, viewed 13 November 2014 <<http://ppesydney.net/climate-change-back-to-the-market-or/>>.
- Buchanan, J.M. (1984), 'Politics without romance: A sketch of positive public choice theory and its normative implications', in J.M. Buchanan & R.D. Tollison (eds), *The Theory of Public Choice II*, Ann Arbor: University of Michigan Press.
- Buchner, B., Ellerman, D. & Carraro, C. (2008), *Allocation in the European Emissions Trading Scheme: Rights, Rents and Fairness*, Cambridge: Cambridge University Press.
- Büchs, M., Bardsley, N. & Duwe, S. (2011), 'Who bears the brunt? Distributional effects of climate change mitigation policies', *Critical Social Policy*, 31(2): 285-307.
- Bulkeley, H. (2000a), 'Discourse coalitions and the Australian climate change policy network', *Environment and Planning C*, 18(6): 727-748.
- Bulkeley, H. (2000b), 'The formation of Australian climate change policy, 1985-1995', in A. Gillespie & W.C.G. Burns (eds), *Climate Change in the South Pacific: Impacts and Responses in Australia, New Zealand, and Small Island States*, Dordrecht: Kluwer Academic Publishers.
- Bulkeley, H. (2001), 'No regrets? Economy and environment in Australia's domestic climate change policy process', *Global Environmental Change*, 11(2): 155-169.
- Bullock, D. (2012), 'Emissions trading in New Zealand: Development, challenges and design', *Environmental Politics*, 21(4): 657-675.
- Bumpus, A. (2011), 'The matter of carbon: Understanding the materiality of tCO₂e in carbon offsets', *Antipode*, 43(3): 612-638.
- Bumpus, A. & Liverman, D.M. (2008), 'Accumulation by decarbonization and the governance of carbon offsets', *Economic Geography*, 84(2): 127-155.
- Burgmann, V. (2003), *Power, Profit and Protest: Australian Social Movements and Globalisation*, Crows Nest: Allen and Unwin.
- Burgmann, V. & Baer, H. (2012), *Climate Politics and the Climate Movement in Australia*, Melbourne: Melbourne University Press.
- Burke, T. (2011), *The Henbury Conservation Project – leading the way in carbon farming*, Minister for Sustainability, Environment, Water, Population and Communities, 26 July, viewed 11 January 2015 <<http://pandora.nla.gov.au/pan/122645/20110918-0005/www.environment.gov.au/minister/burke/2011/mr20110726.html>>.
- Burkett, P. (1996), 'Value, capital and nature: Some ecological implications of Marx's critique of political economy', *Science & Society*, 60(3): 332-359.
- Burkett, P. (1999), *Marx and Nature: A Red and Green Perspective*, New York: St Martin's Press.

- Buttel, F.H. (2000), 'Ecological modernization as social theory', *Geoforum*, 31(1): 57-65.
- BZE (2014), *A Fossil Economy in a Changing World*, Melbourne: Beyond Zero Emissions.
- Cabello, J. (2013), *The World Bank and market readiness: A 'carbon bible' for Southern countries*, Carbon Trade Watch, 9 January, viewed 13 November 2014 <<http://www.carbontradewatch.org/articles/the-world-bank-and-market-readiness-a-carbon-bible-for-southern-countries.html>>.
- Cabello, J. & Gilbertson, T. (eds) (2010), *No REDD: A Reader*, Barcelona: Carbon Trade Watch and Indigenous Environment Network.
- Cahill, D. (2013), 'Ideas-centred explanations of the rise of neoliberalism: A critique', *Australian Journal of Political Science*, 48(1): 71-84.
- Caldecott, B., Tilbury, J. & Ma, Y. (2014), *Stranded Down Under? Environment-related Factors Changing China's Demand for Coal and What this Means for Australian Coal Assets*, Oxford: Oxford University Stranded Asset Programme.
- Caldwell, A. (2009), 'Power station owner prefers buy-out to compo', *The World Today (Radio National)*, 15 October.
- Callon, M. (1998), 'Introduction: the embeddedness of economic markets in economics', in M. Callon (ed.), *The Laws of the Markets*, Oxford: Blackwell.
- Callon, M. (2009), 'Civilizing markets: Carbon trading between *in vitro* and *in vivo* experiments', *Accounting, Organizations and Society*, 34: 535-548.
- Canovan, M. (1999), 'Trust the people! Populism and the two faces of democracy', *Political Studies*, 47(1): 2-16.
- Carmody, G. (2008), 'Consumption-based emissions policy: A vaccine for the CPRS 'trade flu'?', *Growth*, 61: 40-50.
- Carmody, G. (2010a), 'The best option by far is a carbon levy', *The Australian*, 14 July.
- Carmody, G. (2010b), 'Naked truth is better for selling tax', *The Australian*, 24 June.
- Carrington, K., Hogg, R. & McIntosh, A. (2011), 'The resource boom's underbelly: Criminological impacts of mining development', *Australian & New Zealand Journal of Criminology*, 44(3): 335-354.
- Cass, D. (2014), Interview 42, 6 February, Melbourne.
- Cass, L. (2005), 'Norm entrapment and preference change: the evolution of the European Union position on international emissions trading', *Global Environmental Politics*, 5(2): 38-60.
- Cassidy, B. (2013), 'The world is abandoning emissions trading: Abbott', *Insiders*, 8 July.
- Castree, N. (2002), 'False antitheses? Marxism, nature and actor-networks', *Antipode*, 34(1): 111-146.
- Castree, N. (2008), 'Neoliberalising nature: The logics of deregulation and reregulation', *Environment and Planning A*, 40(1): 131-152.
- Castree, N. (2010a), 'Crisis, continuity and change: Neoliberalism, the left and the future of capitalism', *Antipode*, 41: 185-213.
- Castree, N. (2010b), 'Neoliberalism and the biophysical environment: A synthesis and evaluation of the research', *Environment and Society: advances in Research*, 1(1): 5-45.
- Catney, P. & Doyle, T. (2011), 'The welfare of now and the green (post) politics of the future', *Critical Social Policy*, 31(2): 174-193.
- Cavalier, R. (2013), 'Union cabal keeps Labor in death grip', *Sydney Morning Herald*, 21 October.

- CCA (2014a), *Carbon Farming Initiative Review*, Climate Change Authority, Canberra: Commonwealth of Australia.
- CCA (2014b), *Using International Units to Help Meet Australia's Emissions Reduction Targets: Research Paper*, Climate Change Authority, Canberra: Commonwealth of Australia.
- Centre for Science and International Affairs (1992), *Market-Based Policy Mechanisms for Addressing Global Climate Change*, R.N. Stavins Kennedy School of Government, Harvard University.
- Chatterton, P., Featherstone, D. & Routledge, P. (2012), 'Articulating climate justice in Copenhagen: Antagonism, the commons, and solidarity', *Antipode*, 45(3): 602–620.
- Chattopadhyay, D. (2013), 'Carbon pricing in Australia: An expensive way to reduce carbon from the electricity sector', *The Electricity Journal*, 26(5): 37–43.
- Chester, L. (2006), 'The conundrums facing Australia's National Electricity Market', *Economic Papers: A Journal of Applied Economics and Policy*, 25(4): 362–377.
- Chester, L. (2007), 'Who benefits from the restructuring of the Australian electricity sector?', *Journal of Economic Issues*, XLI(4): 981–1001.
- Chester, L. (2008), 'The parlous investment environment for Australian electricity generation and transmission', *International Association for Energy Economics Energy Forum*, Second Quarter: 29–35.
- Chester, L. (2013), 'The failure of market fundamentalism: How electricity sector restructuring is threatening the economic and social fabric', *Review of Radical Political Economics*, 45(3): 315–322.
- Chester, L. (2014), 'Energy impoverishment: Addressing capitalism's new driver of inequality', *Journal of Economic Issues*, 48(2): 395–404.
- Chichilnisky, G. (2013), 'Q&A Panel Discussion', *Limits to Growth: Beyond the Point of Inflexion*, 11–12 December, University of New South Wales.
- Chichilnisky, G. & Sheeran, K. (2009), *Saving Kyoto: An Insider's Guide to What it is, How it Works and What it Means for the Future*, London: New Holland Publishers.
- Christensen, S.A., Duncan, W.D. & Phillips, A. (2012), 'Regulation of emissions under the carbon pricing mechanism: A case study of Australia's coal fired electricity sector', *Asia Pacific Journal of Environmental Law*, 15: 17–50.
- Christiansen, A.C. & Wettestad, J. (2003), 'The EU as a frontrunner on greenhouse gas emissions trading: How did it happen and will the EU succeed?', *Climate Policy*, 3(1): 3–18.
- Christoff, P. (1996), 'Ecological modernisation, ecological modernities', *Environmental Politics*, 5(3): 476–500.
- Christoff, P. (2005), 'Policy autism or double-edged dismissiveness? Australia's climate policy under the Howard government', *Global Change, Peace & Security*, 17(1): 29–44.
- Christoff, P. (2010), 'Touching the void: The Garnaut Review in the chasm between climate science, economics and politics', *Global Environmental Change*, 20(2): 214–217.
- Christoff, P. (2013), 'Climate discourse complexes, national climate regimes and Australian climate policy', *Australian Journal of Politics & History*, 59(3): 349–367.
- Chubb, P. (2014), *Power Failure: The Inside Story of Climate Politics Under Rudd and Gillard*, Melbourne: Black Inc.

- CLC (2013), *Henbury should be returned to traditional owners*, Central Land Council, 30 August, viewed 13 January 2015 <<http://www.clc.org.au/media-releases/article/henbury-should-be-returned-to-traditional-owners/>>.
- Clean Energy Regulator (2013), *European allowance units*, Commonwealth of Australia, 10 September, viewed 13 April 2014 <<https://www.cleanenergyregulator.gov.au/ANREU/Concise-description-of-units/European-allowance-units/Pages/Default.aspx>>.
- Clean Energy Regulator (2014), *LEPID 2013-2014*, Canberra: Clean Energy Regulator: Carbon Pricing Mechanism.
- Climate Commission (2011), *The Critical Decade: Climate Science, Risks and Responses*, Canberra: Department of Climate Change and Energy Efficiency.
- Climate Council (2015), *Unburnable Carbon: Why We Need to Leave Fossil Fuels in the Ground*, Sydney: Climate Council.
- CME (2013), *Transitional Assistance, or Windfall Profits? The Financial Impact of the Carbon Price and Compensation Payments on Victoria's Brown Coal Generators*, Melbourne: CME for Environment Victoria.
- Coase, R.H. (1960), 'The problem of social cost', *The Journal of Law and Economics*, 3: 1-44.
- Colebatch, T. (2012), 'Mining states bake while the rest shiver', *Sydney Morning Herald*, 22 February.
- Colvin, M. (2010), 'Dumped CSIRO professor calls for Senate inquiry', *PM, Radio National*, 24 February.
- Combet, G. (2009), More transitional assistance for coal mining, 24 November, Minister Assisting the Minister for Climate Change.
- Comley, B. (2009), *Evidence to Senate Select Committee on Climate Policy: Emissions Trading and Reducing Carbon Pollution*, 20 May, Canberra: Hansard, Commonwealth of Australia.
- Comley, B. (2012), *Evidence to Senate Estimates - Environment and Communications Legislation Committee*, Canberra: Hansard, Commonwealth of Australia.
- Commission on Global Governance (1995), *Our Global Neighbourhood*, Oxford: Oxford University Press.
- Commonwealth of Australia (2011a), Australian National Registry of Emissions Units Bill, The Parliament of the Commonwealth of Australia House of Representatives, (8 November).
- Commonwealth of Australia (2011b), Carbon Credits (Carbon Farming Initiative) Bill, The Parliament of the Commonwealth of Australia House of Representatives, Canberra.
- Commonwealth of Australia (2011c), Clean Energy Bill, The Parliament of the Commonwealth of Australia House of Representatives, Canberra, (8 November 2011).
- Commonwealth of Australia (2011d), Explanatory Memorandum, Carbon Credits (Carbon Farming Initiative) Bill, Canberra, (24 March).
- Concannon, T. (2009), *Evidence to Senate Select Committee on Climate Policy: Emissions Trading and Reducing Carbon Pollution*, 30 April, Canberra: Hansard, Commonwealth of Australia.
- Connell, R. & Pearse, R. (2015), *Gender: In World Perspective*, Cambridge: Polity Press.
- Connor, J. (2009), *Evidence to Senate Select Committee on Climate Policy: Emissions Trading and Reducing Carbon Pollution*, 20 May, Canberra: Hansard, Commonwealth of Australia.

References

- Connor, J. (2014), Interview 48, 17 March, Sydney.
- Connor, L. (2012), 'Experimental publics: Activist culture and political intelligibility of climate change action in the Hunter Valley, Southeast Australia', *Oceania*, 82(3): 228-249.
- Connor, L., Freeman, S. & Higginbotham, N. (2009), 'Not just a coalmine: Shifting grounds of community opposition to coal mining in Southeastern Australia', *Ethnos*, 74(4): 490-513.
- Cook, I. (2006), *Lowy Institute Poll 2006: Australia, Indonesia and the World*, Public Opinion and Foreign Policy, 24 July, Sydney: Lowy Institute.
- Cooper, M.H. & Rosin, C. (2014), 'Absolving the sins of emission: The politics of regulating agricultural greenhouse gas emissions in New Zealand', *Journal of Rural Studies*, 36: 391-400.
- Coorey, P. (2006), 'Green groups get a say on greenhouse plan', *Sydney Morning Herald*, 20 December.
- Coorey, P. (2011), 'Industry push to wipe out carbon price', *Sydney Morning Herald*, 1 July.
- Corbera, E. (2012), 'Problematizing REDD+ as an experiment in payments for ecosystem services', *Current Opinion in Environmental Sustainability*, 4(6): 612-619.
- Corbera, E., Estrada, M. & Brown, K. (2010), 'Reducing Greenhouse Gas Emissions from Deforestation and Forest Degradation in Developing Countries: Revisiting the Assumptions', *Climatic Change*, 100(3): 355-388.
- Corbera, E. & Friedli, C. (2012), 'Planting trees through the Clean Development Mechanism: A critical assessment', *Ephemera: Theory and Politics in Organization*, 12(1/2): 206-241.
- Costanza, R. et al. (1998), 'The value of the world's ecosystem services and natural capital', *Ecological Economics*, 25(1): 3-15.
- Courtice, B. (2013), Interview 06, 25 November, Melbourne.
- Cramton, P. & Kerr, S. (2002), 'Tradeable carbon permit auctions: How and why to auction not grandfather', *Energy Policy*, 30(4): 333-345.
- Cranston, M. (2014), 'Dishonesty claims at Henbury', *Australian Financial Review*, 24 June.
- Cranston, M. & Callinan, R. (2014), 'Senator Bill Heffernan calls for investigation into News Corp carbon scheme', *Sydney Morning Herald*, 14 July.
- Crocker, T.D. (1971), *Urban Air Pollution Damage Functions : Theory and Measurement. Final Report* Riverside: University of California.
- Crouch, B. (2006), 'Beazley vow on climate', *The Advertiser*, 14 October.
- Crowley, K. (2010), 'Climate clever? Kyoto and Australia's decade of recalcitrance', in K. Harrison & L. McIntosh Sundstrom (eds), *Global Commons, Domestic Decisions*, Cambridge: MIT Press.
- Crowley, K. (2013a), 'Irresistible force? Achieving carbon pricing in Australia', *Australian Journal of Politics & History*, 59(3): 368-381.
- Crowley, K. (2013b), 'Pricing carbon: The politics of climate policy in Australia', *Wiley Interdisciplinary Reviews: Climate Change*, 4(6): 603-613.
- Cubby, B. (2013), 'A so-called market in invisible stuff: the meaning of Tony Abbott's carbon rhetoric', *Sydney Morning Herald*, 15 July.
- Cubby, B. & Wilkinson, M. (2009), 'I am a top foreigner in Papua New Guinea, says carbon kingpin', *Sydney Morning Herald*, 4 September.
- Curran, G. (2009), 'Ecological modernisation and climate change in Australia', *Environmental Politics*, 18(2): 201-217.

- Curran, G. (2011), 'Modernising climate policy in Australia: Climate narratives and the undoing of a Prime Minister', *Environment and Planning-Part C*, 29(6): 1004-1017.
- Curran, G. (2012), 'Contested energy futures: Shaping renewable energy narratives in Australia', *Global Environmental Change*, 22(1): 236-244.
- Curtain, C. (2011), 'Cattle graziers cautious about Henbury lock up', *ABC Rural*, 27 July.
- Dale, G. (2012), 'Double movements and pendular forces: Polanyian perspectives on the neoliberal age', *Current Sociology*, 60(1): 3-27.
- Dales, J.H. (1968a), 'Land, water, and ownership', *Canadian Journal of Economics*, 1(4): 791-804.
- Dales, J.H. (1968b), *Pollution, Property and Prices: An Essay in Policy-Making and Economics*, Toronto: University of Toronto Press.
- Daley, J. (2013), Interview 10, 27 November, Melbourne.
- Daley, J. & Edis, T. (2010a), *Learning the Hard Way: Australian Policies to Reduce Carbon Emissions*, Melbourne: Grattan Institute.
- Daley, J. & Edis, T. (2010b), *Restructuring the Australian economy to emit less carbon*, Melbourne: Grattan Institute.
- Damro, C. & Méndez, P.L. (2003), 'Emissions trading at Kyoto: From EU resistance to Union innovation', *Environmental Politics*, 12(2): 71-94.
- Darby, A. (2006), 'PM's southerly change: Expect extreme weather', *Sydney Morning Herald*, 14 December.
- Davidson, S. (2012), 'The insuperable imperative: A critique of the ecologically modernizing state', *Capitalism Nature Socialism*, 23(2): 31-50.
- Davies, A. (2015), 'Exploration licence buybacks good look, but won't quieten CSG debate', *Sydney Morning Herald*, 1 June.
- DCC (2008a), *Carbon Pollution Reduction Scheme: Australia's Low Pollution Future*, Volume 1, Canberra: Department of Climate Change.
- DCC (2008b), *Carbon Pollution Reduction Scheme: Green Paper*, Department of Climate Change, Canberra Commonwealth of Australia.
- DCC (2008c), *Indonesia-Australia Roadmap for Access to International Carbon Markets*, Department of Climate Change, Canberra: Commonwealth of Australia.
- DCC (2009), *Strengthening Australia's 2020 Carbon Pollution Target*, Department of Climate Change, Canberra: Commonwealth of Australia.
- DCCEE (2010), *Terms of reference*, Multi-Party Climate Change Committee, Department of Climate Change and Energy Efficiency, viewed 1 November 2014 <<http://pandora.nla.gov.au/pan/125787/20110317-0228/www.climatechange.gov.au/government/initiatives/multi-party-committee/terms-of-reference.html>>.
- DCCEE (2011), *Securing a Clean Energy Future: The Australian Government's Climate Change Plan*, Department of Climate Change and Energy Efficiency, Canberra: Commonwealth of Australia.
- DCCEE (2012a), *Australia's Emissions Projection 2012*, Department of Climate Change and Energy Efficiency, Canberra: Commonwealth of Australia.
- DCCEE (2012b), *Australian National Greenhouse Gas Accounts: Quarterly Update of Australia's National Greenhouse Gas Inventory*, Department of Climate Change and Energy Efficiency, Canberra: Commonwealth of Australia.

References

- Denniss, R. (2008), *Fixing the Floor in the ETS: The Role of Energy Efficiency in Reducing Australia's Emissions*, Research Paper No.59, Canberra: The Australia Institute.
- Denniss, R. (2009a), *Harder to Do Than to Say? The Failure of the CPRS to Reduce Emissions from Coal-fired Power Stations*, Policy Brief No.5, Canberra: The Australia Institute.
- Denniss, R. (2009b), 'Left and Right agree on carbon tax', *The Australian*, 18 February.
- Denniss, R. (2011), 'Good politics, good policy', *Climate Spectator*, 25 February.
- Denniss, R. & Grudnoff, M. (2011a), *Complementary or Contradictory? An Analysis of the Design of Climate Policies in Australia*, Policy Brief No.22, Canberra: The Australia Institute.
- Denniss, R. & Grudnoff, M. (2011b), *The Real Cost of Direct Action: An Analysis of the Coalition's Direct Action Plan* Policy Brief No. 29, Canberra: The Australia Institute.
- Denniss, R. & Richardson, D. (2010), *Why a carbon tax is good for the hip pocket*, Policy Brief No.17, Canberra: The Australia Institute.
- Deroubaix, J.-F. & Lévêque, F. (2006), 'The rise and fall of French Ecological Tax Reform: Social acceptability versus political feasibility in the energy tax implementation process', *Energy Policy*, 34(8): 940-949.
- Descheneau, P. & Paterson, M. (2011), 'Between desire and routine: Assembling environment and finance in carbon markets', *Antipode*, 43(3): 662–681.
- Detraz, N. & Betsill, M.M. (2009), 'Climate change and environmental security: For whom the discourse shifts', *International Studies Perspectives*, 10(3): 303-320.
- DFAT (2011), *Australia's Coal and Iron ore exports 2001 to 2011* Canberra: Department of Foreign Affairs and Trade.
- Diesendorf, M. (1993), 'Reclaiming the Ecologically Sustainable Development Process', paper presented to the *Changing Directions: Proceedings of Ecopolitics*, Royal Melbourne Institute of Technology, Melbourne.
- Diesendorf, M. (1996), 'How can a “competitive” market for electricity be made compatible with the reduction of greenhouse gas emissions?', *Ecological Economics*, 17(1): 33-48.
- Diesendorf, M. (1998), 'Australian economic models of greenhouse abatement', *Environmental Science & Policy*, 1(1): 1-12.
- DIICCS RTE (2013), *Australian National Greenhouse Accounts: Australian Land Use, Land Use Change and Forestry Emissions Projections to 2030*, Department of Industry Innovation Climate Change Science Research and Tertiary Education, Canberra.
- Dijkstra, B.R. (1999), *The Political Economy of Environmental Policy: A Public Choice Approach to Market Instruments*, Cheltenham: Edward Elgar Publishing.
- DOE (2013), *Australia's Abatement Task and 2013 Emissions Projections*, Department of Environment, Canberra: Commonwealth of Australia.
- DOE (2014a), *Australian National Greenhouse Accounts: Quarterly Update of Australia's National Greenhouse Gas Inventory: June 2014*, Department of Environment, Canberra: Commonwealth of Australia.
- DOE (2014b), *Emissions Reduction Fund: White Paper*, Department of Environment, Canberra: Commonwealth of Australia.
- DOE (2015a), *Australia's Emissions Projections 2014 –15*, Department of Environment, Canberra: Commonwealth of Australia.
- DOE (2015b), *Emissions Reduction Fund: Safeguard Mechanism*, Department of Environment, Canberra: Commonwealth of Australia.

- DOE (2015c), *Water resources - 2013 EPBC Act amendment - Water trigger*, viewed 13 August 2015 <<https://www.environment.gov.au/epbc/what-is-protected/water-resources>>.
- Dooley (2014), *Misleading Numbers: The Case for Separating Land and Fossil Based Carbon Emissions*, Brussels: FERN.
- Dooley, K., Griffiths, T., Leake, H. & Ozinga, S. (2008), *Cutting Corners: World Bank's Forest and Carbon Fund Fails Forests and Peoples*, Brussels: FERN and Forest People's Programme.
- Dore, J. et al. (2014), 'Carbon projects and Indigenous land in northern Australia', *The Rangeland Journal*, 36(4): 389-402.
- Downer, A. & Turnbull, M. (2007), Indonesian Forests Partnership to Reduce Greenhouse Gas Emissions, 9 September, Canberra, Department of Foreign Affairs and Department of Environment and Water Resources.
- Downes, P., Hanslow, K. & Tulip, P. (2014), *The Effect of the Mining Boom on the Australian Economy*, Research Discussion Paper RDP 2014-08, Sydney: Reserve Bank of Australia.
- Doyle, T. (1990), 'Environmental movement power brokers', *Philosophy and Social Action*, 16(8): 37-52.
- Doyle, T. (2000), *Green Power: The Environment Movement in Australia*, Sydney: UNSW Press.
- Doyle, T. (2010), 'Surviving the Gang Bang Theory of Nature: The environment movement during the Howard years', *Social Movement Studies*, 9(2): 155-169.
- Doyle, T. & Chaturvedi, S. (2010), 'Climate territories: A global soul for the global south?', *Geopolitics*, 15(3): 516-535.
- Dresner, S., Dunne, L., Clinch, P. & Beuermann, C. (2006a), 'Social and political responses to ecological tax reform in Europe: An introduction to the special issue', *Energy Policy*, 34(8): 895-904.
- Dresner, S., Jackson, T. & Gilbert, N. (2006b), 'History and social responses to environmental tax reform in the United Kingdom', *Energy Policy*, 34(8): 930-939.
- Driesen, D. (1998), 'Is emissions trading an economic incentive program?: Replacing the command and control/economic incentive dichotomy', *Washington and Lee Law Review*, 55: 289-335.
- Driesen, D. (2014a), 'Putting a price on carbon: The metaphor', *Environmental Law*, 44(3): 695-722.
- Driesen, D.M. (2014b), 'The limits of pricing carbon', *Climate Law*, 4(1-2): 107-118.
- DSS (2013), *Household Assistance Package*, Department of Social Services, 25 October, viewed 13 April 2014 <<http://www.dss.gov.au/household-assistance-package>>.
- Dudek, D.J. & Palmisano, J. (1987), 'Emissions trading: Why is this thoroughbred hobbled', *Columbia Journal of Environmental Law*, 13: 217-256.
- Dunlap, R.E. & McCright, A.M. (2011), 'Organised climate change denial', in J.S. Dryzek, K.M. Norgaard & D. Schlosberg (eds), *The Oxford Handbook of Climate Change and Society*, Oxford: Oxford University Press.
- Eckersley, R. (1993), 'Free market environmentalism: Friend or foe?', *Environmental Politics*, 2(1): 1-19.
- Economou, N. (1999), 'Backwards into the future: National policy making, devolution and the rise and fall of Australian environmental policy', in K.J. Walker & K. Crowley (eds), *Australian Environmental Policy 2. Studies in Decline and Devolution*, Sydney: University of New South Wales.

- Economou, N.M. (1993), 'Accordism and the environment: The resource assessment commission and national environmental policy-making', *Politics*, 28(3): 399-412.
- Edis, T. (2013), 'The abdication of climate policy', *ClimateSpectator*, 4 March.
- Edis, T. (2015), 'The budget blows away Abbott's Direct Action fig leaf', *ClimateSpectator*, 13 May.
- Edmands, P. (2014), 'We bind our competitiveness with red and green tape', *Australian Financial Review*, 29 May.
- EDO (2014), *Mining*, Sydney: NSW Environmental Defenders Office.
- EDO (2015), *Current cases*, NSW Environmental Defenders Office, viewed 13 August 2015 <http://www.edonsw.org.au/current_cases>.
- EIA (2013), *Two Billion Tonne Climate Bomb: How to Defuse the HFC-23 Problem*, London: Environmental Investigation Agency.
- Emel, J. & Huber, M.T. (2008), 'A risky business: Mining, rent and the neoliberalization of "risk"', *Geoforum*, 39(3): 1393-1407.
- Emel, J., Huber, M.T. & Makene, M.H. (2011), 'Extracting sovereignty: Capital, territory, and gold mining in Tanzania', *Political Geography*, 30(2): 70-79.
- Engels, A., Hüther, O., Schäfer, M. & Held, H. (2013), 'Public climate-change skepticism, energy preferences and political participation', *Global Environmental Change*, 23(5): 1018-1027.
- Ergas, C. & York, R. (2012), 'Women's status and carbon dioxide emissions: A quantitative cross-national analysis', *Social Science Research*, 41(4): 965-976.
- Ergas, H. (2011a), 'Mr Garnaut, climate policy should be questioned', *The Australian*, 30 September.
- Ergas, H. (2011b), 'Not a model way to sell a carbon tax', *The Australian*, 21 October.
- Ergas, H. (2012), 'Alan Jones fosters robust debate while Ross Garnaut hides his models', *The Australian*, 5 October.
- Ergas, H. & Robson, A. (2012), 'Modelling as Agit-prop: The treasury's role in Australia's carbon tax debate', *Agenda: A Journal of Policy Analysis and Reform*, 19(2): 9-21.
- Ervine, K. (2013), 'Diminishing returns: Carbon market crisis and the future of market-dependent climate change finance', *New Political Economy*, 19(5): 723-747.
- ESDSC (1992), *Draft National Strategy for Ecologically Sustainable Development, A Discussion Paper*, Ecologically Sustainable Development Steering Committee, Canberra: Commonwealth of Australia.
- European Commission (2012), *Report from the Commission to the European Parliament and the Council: The State of the European Carbon Market in 2012*, COM(2012) 652, Brussels: European Commission.
- Evans, G. (2013), 'No to carbon tax or ETS', *The Australian*, 11 July.
- Fairclough, N. (2003), *Analysing Discourse: Textual Analysis for Social Research*, New York: Routledge.
- Fankhauser, S. & Hepburn, C. (2010a), 'Designing carbon markets. Part 1: Carbon markets in time', *Energy Policy*, 38(8): 4363-4370.
- Fankhauser, S. & Hepburn, C. (2010b), 'Designing carbon markets. Part 2: carbon markets in space', *Energy Policy*, 38(8): 4381-4387.
- FAO (2010), *Forests and Climate Change in the Asia-Pacific Region*, Rome: Food and Agriculture Organisation of the United Nations.
- Federal Senate (2009), *Senate Select Committee on Climate Policy: Report*, June, Canberra: Hansard, Commonwealth of Australia.

- Federal Senate (2011a), *Select Committee on the Scrutiny of New Taxes: Final Report - The Carbon Tax: Secrecy and Spin Cannot Hide Carbon Tax Flaws*, October, Canberra: Hansard, Commonwealth of Australia.
- Federal Senate (2011b), *Select Committee on the Scrutiny of New Taxes: Interim Report - The Carbon Tax: Economic Pain for Environmental Gain*, October, Canberra: Hansard, Commonwealth of Australia.
- Felli, R. (2014), 'On climate rent', *Historical Materialism*, 22(3-4): 251-280.
- Fischer, C., Kerr, S. & Toman, M. (1998), 'Using emissions trading to regulate US greenhouse gas emissions: An overview of policy design and implementation issues', *National Tax Journal*: 453-464.
- Fisher, B. (2009), *A Peer Review of the Treasury Modelling of the Economic Impacts of Reducing Emissions*, Canberra: Concept Economics.
- Fisher, B., Beare, S. & Szakiel, S. (2009), *The Employment Effects in the Australian Minerals Industry from the Proposes Carbon Pollution Reduction Scheme in Australia*, Canberra: Concept Economics for Minerals Council of Australia.
- Flannery, T. (2006), *The Weather Makers: The History and Future of Climate Change*, Melbourne: Text Publishing.
- Flittner, N. (2009), *Evidence to Senate Select Committee on Climate Policy: Emissions Trading and Reducing Carbon Pollution*, 23 April, Hobart: Hansard, Commonwealth of Australia.
- FOE Australia, Greenpeace, Wilderness Society & Conservation Councils (2009), *Plan B: An Agenda For Immediate Climate Action*, Melbourne: Conservation Councils, Friends of the Earth Australia, Greenpeace, the Wilderness Society.
- FPP, Pusaka & YPD (2011), *Central Kalimantan: REDD+ and the Kalimantan Forest Carbon Partnership*, Forest Peoples Programme, Pusaka, and Yayasan Petak Danum.
- Franks, D.M., Brereton, D. & Moran, C.J. (2010), 'Managing the cumulative impacts of coal mining on regional communities and environments in Australia', *Impact Assessment and Project Appraisal*, 28(4): 299-312.
- Frew, W. (2006), 'PM thaws on carbon trading', *Sydney Morning Herald*, 14 November.
- Frontier Economics (2009), *The Economic Impact of the CPRS and Modifications to the CPRS*, Report for the Coalition and Senator Xenophon, Melbourne: Frontier Economics.
- Fry, I. (2008), 'Reducing emissions from deforestation and forest degradation: Opportunities and pitfalls in developing a new legal regime', *Review of European Community and International Environmental Law*, 17(2): 166-182.
- Fryer, D. & Barraclough, M. (2009), *Research Note: The Impact of Industry Assistance Measures under the CPRS-Scheme deferral update*, Melbourne: RiskMetrics for Australian Conservation Foundation.
- Gailey, G. (2009), 'Reject devilish detail in carbon laws', *The Australian*, 21 May.
- Gale, T. (2001), 'Critical policy sociology: Historiography, archaeology and genealogy as methods of policy analysis', *Journal of Education Policy*, 16(5): 379-393.
- Galudra, G., Noordwijk, M.S., Suyanto, M. & Pradhan, U. (2010), *Hot Spots of Confusion: Contested Policies and Competing Carbon Claims in the Peatlands of Central Kalimantan, Indonesia*, Nairobi: ASB Partnership for the Tropical Forest Margins.
- Garnaut, R. (2008a), *The Garnaut Climate Change Review: Final Report*, Cambridge: Cambridge University Press.
- Garnaut, R. (2008b), 'Keynote address', *Climate Change and Social Justice Conference*, 3 April, University of Melbourne.

References

- Garnaut, R. (2011a), *Carbon pricing and reducing Australia's emissions*, Update Paper 6, Canberra: Commonwealth of Australia.
- Garnaut, R. (2011b), *The Garnaut Climate Change Review: Final Report*, Canberra: Commonwealth of Australia, Cambridge University Press.
- Garnaut, R. (2014), *Evidence to Senate Select Committee on Environment and Communications: Government's Direct Action Plan*, 7 March, Canberra: Hansard, Commonwealth of Australia.
- Geist, H.J. & Lambin, E.F. (2002), 'Proximate Causes and Underlying Driving Forces of Tropical Deforestation', *BioScience*, 52(2): 143-150.
- Gelbspan, R. (2005), *Boiling Point: How Politicians, Big Oil and Coal, Journalists and Activists are Fueling the Climate Crisis - And What We Can Do to Avert Disaster*, New York: Basic Books.
- GetUp! et al. (2010), Open letter calling for immediate climate action, 13 April, Parliament House, Canberra ACT 2601.
- Gibson, K. (1990), 'Australian coal in the global context: A paradox of efficiency and crisis', *Environment and Planning A*, 22(5): 629-646.
- Gilardi, F. (2010), 'Who learns from what in policy diffusion processes?', *American Journal of Political Science*, 54(3): 650-666.
- Gillard, J. (2010), 'Carbon price is the reform we have to have', *Sydney Morning Herald*, 17 November.
- Gillard, J. (2013), 'Julia Gillard writes on power, purpose and Labor's future', *The Guardian*, 14 September.
- Glenday, J. (2014), 'Wind farms are ruining the landscape and are 'appalling'', Treasurer Joe Hockey says', *ABC News*, 17 September.
- Goodman, J. (2009), 'From global justice to climate justice? Justice ecologism in an era of global warming', *New Political Science*, 31(4): 499-514.
- Goodman, J. & Roberts, E. (2009), *What a Scam!: Australia's REDD Offsets for Copenhagen*, Sydney: Aid/Watch and Friends of the Earth Australia.
- Gough, C. & Shackley, S. (2001), 'The respectable politics of climate change: The epistemic communities and NGOs', *International Affairs*, 77(2): 329-346.
- Gough, I. (2012), *Climate Change, Double Injustice and Social Policy: A Case Study of the United Kingdom*, Occasional Paper One, Social Dimensions of Green Economy and Sustainable Development, Geneva: United Nations Research Institute for Social Development
- Gough, I. (2013a), 'Carbon mitigation policies, distributional dilemmas and social policies', *Journal of Social Policy*, 42(2): 191-213.
- Gough, I. (2013b), 'Climate change, social policy, and global governance', *Journal of International and Comparative Social Policy*, 29(3): 185-203.
- Government of South Australia (1996), National Electricity (South Australia) Act 1996, Attorney General's Department, Version: 19.12.2013.
- Gramsci, A. (1971), *Selections from the Prison Notebooks of Antonio Gramsci*, trans. Q. Hoare & G.N. Smith, London: Lawrence and Wishart.
- Gramsci, A. (1992), *Prison Notebooks* trans. J.A. Buttigieg, vol. III, New York: Columbia University Press.
- Grant, A. (2009), *Evidence to Senate Select Committee on Climate Policy: Emissions Trading and Reducing Carbon Pollution*, 16 April, Canberra: Hansard, Commonwealth of Australia.
- Grattan, M. (2009), 'Minchin's emissions opposition a direct challenge to Turnbull', *Sydney Morning Herald*, 20 November.

- Grattan, M. & Wroe, D. (2011), 'Abbott's blood oath to repeal carbon tax', *Sydney Morning Herald*, 13 October.
- Green, F., McKibbin, W. & Picker, G. (2010), *Confronting the Crisis of International Climate Policy: Rethinking the Framework for Cutting Emissions*, July, 7 July, Sydney: Lowy Institute.
- Green, J. (2008), 'Delegation and accountability in the Clean Development Mechanism: The new authority of non-state actors', *Journal of International Law and International Relations*, 21: 21-55.
- Green, J. (2013a), 'An invisible nod to the climate change sceptics', *The Drum ABC*, 18 July.
- Green, J. (2013b), 'Order out of chaos: Public and private rules for managing carbon', *Global Environmental Politics*, 13(2): 1-25.
- Greenpeace (2010a), *How people power stopped a new coal power station*, Greenpeace, <<http://www.greenpeace.org/australia/en/news/climate/How-the-community-stopped-HRL/>>.
- Greenpeace (2010b), *Papua New Guinea: Not Ready for [REDD]*, Sydney: Greenpeace Asia-Pacific.
- Greenpeace (2013a), *The Critical List: 91 Coal Projects Australia Can't Afford*, Sydney: Greenpeace.
- Greenpeace (2013b), *Point of No Return: The Massive Climate Threats We Must Avoid*, Amsterdam: Greenpeace International.
- Greenpeace (undated), *The Dirty Dozen*, viewed 13 June 2013
<<http://www.greenpeace.org/australia/en/what-we-do/climate/Polluting-our-future/The-Dirty-Dozen/>>.
- Gridneff, I. (2009), 'PNG Climate Office Director Suspended', *Sydney Morning Herald*, 1 July.
- Griffiths, E. (2013), 'Tony Abbott tells National Press Club that election will be referendum on carbon tax', *ABC News*, 2 September.
- Griffiths, E. (2014), 'Clive Palmer will help axe carbon tax but courts Al Gore in push for ETS', *ABC News*, 26 June.
- Grubb, M. (1998), 'International emissions trading under the Kyoto Protocol: Core issues in implementation', *Review of European Community & International Environmental Law*, 7(2): 140-146.
- Grubb, M. (2003), 'The economics of the Kyoto Protocol', *World Economics*, 4(3): 143-190.
- Grubb, M. (2013), *Planetary Economics: Energy, Climate Change and the Three Domains of Sustainable Development*, London: Routledge.
- Grubb, M., Vrolijk, C. & Brack, D. (1999), *The Kyoto Protocol: A Guide and Assessment*, London: Royal Institute of International Affairs.
- Grubb, M., with Fazekas, D., Cooper, S. & Kimmorley, K. (2011), *Ten Insights from the EU Emissions Trading Scheme: With Reference to Carbon Pricing in Australia*, Canberra: Productivity Commission.
- Grudnoff, M. (2013), Interview 24, 20 December, Canberra.
- Habermas, J. (1976), *Legitimation Crisis*, trans. T. McCarthy, London: Heinemann.
- Hackett, R. (2015), 'Market-based environmental governance and public resources in Alberta, Canada', *Ecosystem Services*, 15: 174-180.
- Hajer, M.A. (1995), *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process*, Oxford: Oxford University Press.
- Hall, N. & Taplin, R. (2007), 'Revolution or inch-by-inch? Campaign approaches on climate change by environmental groups', *The Environmentalist*, 27(1): 95-107.

- Hall, N. & Taplin, R. (2008), 'Room for climate advocates in a coal-focused economy? NGO influence on Australian climate policy', *Australian Journal of Social Issues*, 43(3): 359-379.
- Hall, R. (2008), *REDD Myths: A Critical Review of Proposed Mechanisms to Reduce Emissions From Deforestation and Degradation in Developing Countries*, Amsterdam: Friends of the Earth International.
- Halpin, D. (2004), 'Transitions between formations and organisations: An historical perspective on the political representation of Australian farmers', *Australian Journal of Politics & History*, 50(4): 469-490.
- Hamilton, C. (1997), *A Policy Without A Future: Australia's International Position on Climate Change*, Background Paper no. 8, Canberra: The Australia Institute.
- Hamilton, C. (2001), *Running from the Storm: The Development of Climate Change Policy in Australia*, Sydney: UNSW Press.
- Hamilton, C. (2006), 'The Dirty Politics of Climate Change', paper presented to the *Climate Change and Business Conference*, Hilton Hotel, Adelaide, 20 February.
- Hamilton, C. (2007), *Scorcher: The Dirty Politics of Climate Change*, Melbourne: Black Inc. Agenda.
- Hamilton, C. & Macintosh, A. (2004), *Taming the Panda: The relationship between WWF Australia and the Howard government*, Canberra, The Australia Institute.
- Hamilton, C. & Quiggin, J. (1997), *Economic Analysis of Greenhouse Policy: A Layperson's Guide to the Perils of Economic Modelling* Discussion Paper no. 15, Canberra: The Australia Institute.
- Hamilton, C. & Vellen, L. (1999), 'Land-use change in Australia and the Kyoto Protocol', *Environmental Science & Policy*, 2(2): 145-152.
- Harrison, K. (2007), 'The road not taken: Climate change policy in Canada and the United States', *Global Environmental Politics*, 7(4): 92-117.
- Harrison, K. (2010), 'The comparative politics of carbon taxation', *Annual Review of Law and Social Science*, 6: 507-529.
- Harrison, K. (2012), 'A tale of two taxes: The fate of environmental tax reform in Canada', *Review of Policy Research*, 29(3): 383-407.
- Hatfield-Dodds, S. et al. (2011), *The Carbon Price and the Cost of Living*, Canberra: CSIRO for The Climate Institute.
- Hay, C. (1994), 'Environmental security and state legitimacy', *Capitalism Nature Socialism*, 5(1): 83-97.
- Hay, C. (1996), 'From crisis to catastrophe? The ecological pathologies of the liberal—democratic state form', *Innovation: The European Journal of Social Science Research*, 9(4): 421-434.
- Hay, C. (2004), 'The normalizing role of rationalist assumptions in the institutional embedding of neoliberalism', *Economy and Society*, 33(4): 500-527.
- Hay, C. (2014), 'Neither real nor fictitious but 'as if real'? A political ontology of the state', *The British Journal of Sociology*, 65(3): 459-480.
- Hay, P. & Eckersley, R. (1993), 'Tasmania's labor-green accord 1989–91: Lessons from Lilliput', *Environmental Politics*, 2(1): 88-93.
- Heath, M. (2015), 'How Australia squandered the commodities boom', *Sydney Morning Herald*, 24 April.
- Heede, R. (2014), 'Tracing anthropogenic carbon dioxide and methane emissions to fossil fuel and cement producers, 1854–2010', *Climatic Change*, 122(1): 1-13.
- Hemmati, M. & Röhr, U. (2009), 'Engendering the climate-change negotiations: Experiences, challenges, and steps forward', *Gender and Development*, 17(1): 19-32.

- Henderson, G. (2013), 'Twisted logic links the tragic NSW bushfires with the Prime Minister, climate change and abolishing the carbon tax', *Sydney Morning Herald*, 22 October.
- Hennessy, K.J. et al. (2005), *Climate change impacts on fire-weather in south-east Australia*, Canberra: CSIRO Marine and Atmospheric Research and Bush fire CRC and Australian Bureau of Meteorology.
- Hepburn, C. (2006), 'Regulation by prices, quantities, or both: A review of instrument choice', *Oxford Review of Economic Policy*, 22(2): 226-247.
- Hepburn, C. (2007), 'Carbon trading: A review of the Kyoto mechanisms', *Annual Review of Environmental Resources*, 32: 375-393.
- Hepburn, C. et al. (2006), 'Auctioning of EU ETS phase II allowances: How and why?', *Climate Policy*, 6(1): 137-160.
- Hepburn, J. (2009), *Evidence to Senate Select Committee on Climate Policy: Emissions Trading and Reducing Carbon Pollution*, 21 April, Sydney: Hansard, Commonwealth of Australia.
- Hepworth, A. (2010), 'Boral chair joins chorus for carbon tax', *The Australian*, 7 October.
- Hewett, J. (2009), 'An uneasy union between government and business', *The Australian*, 10 November.
- Hickman, L. (2010), 'Cancel Lord Monckton's university lecture, say academics', *The Guardian*, 28 June.
- Hicks, J. (2014), Interview 31, 23 January, Sydney.
- Higginbotham, N., Freeman, S., Connor, L. & Albrecht, G. (2010), 'Environmental injustice and air pollution in coal affected communities, Hunter Valley, Australia', *Health & Place*, 16(2): 259-266.
- Hill, J. (2014), 'Power corrupts: How network companies lined their pockets and drove electricity prices through the roof', *The Monthly*, July.
- Hill, R. (1997a), 'Australia's international policy on climate change', *The American Chamber of Commerce in Australia*, 9 July, ANA Hotel Sydney.
- Hill, R. (1997b), 'The challenge for Australia on global climate change', *National Academies Forum*, 9 July, Canberra.
- Hillman, R. (2009), *Evidence to Senate Select Committee on Climate Policy: Emissions Trading and Reducing Carbon Pollution*, 30 April, Canberra: Hansard, Commonwealth of Australia.
- Hilmer, F., Rayner, M. & Taperell, G. (1993), *National Competition Policy*, Canberra: Report by the Independent Committee of Inquiry.
- Hindmoor, A. (2006), 'Public choice', in C. Hay, M. Lister & D. Marsh (eds), *The State: Theories and Issues*, Basingstoke: Palgrave Macmillan.
- Hodgson, S. (2009), *Evidence to Senate Select Committee on Climate Policy: Emissions Trading and Reducing Carbon Pollution*, 28 April, Melbourne: Hansard, Commonwealth of Australia.
- Hogan, N. (2014), Interview 47, 13 March, Newcastle.
- Hollo, T. (2013), Interview 25, 20 December, Canberra.
- Holmes, J. (2011), 'Lessons in hyperbolic gestures', *Media Watch*, 30 May.
- Hooke, M. (2009), 'Carbon plan will cause jobs carnage', *The Australian*, 22 May.
- Houghton, J.T. et al. (1996), *Climate Change, 1995: The Science of Climate Change*, Cambridge: Cambridge University Press.
- Howard, J., Downer, A. & Turnbull, M. (2007), *Australia to lead the world: Global Initiative on Forests and Climate*, 19 March, Canberra, Department of Foreign Affairs and Department of Environment and Water Resources.

References

- Huber, M.T. (2009), 'Energizing historical materialism: Fossil fuels, space and the capitalist mode of production', *Geoforum*, 40(1): 105-115.
- Huber, M.T. & Emel, J. (2009), 'Fixed minerals, scalar politics: The weight of scale in conflicts over the 1872 Mining Law in the United States', *Environment and Planning A*, 41(2): 371-388.
- Hübner, A. & Gould, J. (2015), 'Deutsche Bank employees accused of tax fraud', *Reuters*, 13 August.
- Humphreys, J. (2009), 'We need to start emissions debate', *The Australian*, 18 February.
- Humphreys, J. & Malpass, L. (2009), *Emissions Tax: The Least Worst Option*, St Leonards and Wellington: Centre for Independent Studies.
- Hundloe, T. (1992), 'The role of the Industry Commission in relation to the Environment and Sustainable Development', *Australian Journal of Public Administration*, 51(4): 476-489.
- Hunt, G. (2012), 'Our carbon tax is uniquely costly', *The Australian*, 7 November.
- Hunt, G. (2013a), *Coalition's Orang-utan and Rainforest Protection Plan*, 30 August, Shadow Minister for Climate Action Environment and Heritage, Canberra.
- Hunt, G. (2013b), 'Why direct action is better', *Canberra Times*, 4 October.
- Hunt, G. (2014), 'Greg Hunt defends Direct Action climate change policy', *ABC News*, 22 April.
- Hutchens, G. & Cox, L. (2014), 'Ross Garnaut calls on major parties to consider alternative emissions trading scheme', *Sydney Morning Herald*, 4 July.
- Hutton, D. (2012), 'Lessons from the Lock the Gate Movement', *Social Alternatives*, 3(1): 15-19.
- Hutton, D. & Connors, L. (1999), *A History of the Australian Environmental Movement*, Cambridge: Cambridge University Press.
- IC (1991a), *Costs and Benefits of Reducing Greenhouse Gas Emissions*, Industry Commission, Canberra: Commonwealth of Australia.
- IC (1991b), *Energy Generation and Distribution, Vol 1-111*, Industry Commission, Canberra: Commonwealth of Australia.
- IC (1997), *Framework for Greenhouse Emission Trading in Australia*, Industry Commission, Canberra: Commonwealth of Australia.
- ICAC (2013), *Reducing the Opportunities and Incentives for Corruption in the State's Management of Coal Resources*, Sydney: Independent Commission Against Corruption.
- IEA (2013), *World Energy Outlook: Redrawing the Energy-Climate Map*, Paris: International Energy Agency.
- IPCC (2007), *Climate Change 2007: The Physical Science Basis*, Cambridge: Cambridge University Press.
- IPCC (2013), 'Summary for Policy Makers', in T.F. Stocker, D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex & P.M. Midgley (eds), *Climate Change 2013: The Physical Science Basis, Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge: Cambridge University Press.
- Isenberg, J. & Potvin, C. (2010), 'Financing REDD in developing countries: A supply and demand analysis', *Climate Policy*, 10(216-231).
- Ison, N., Hicks, J., Gilding, J. & Ross, K. (2012), *The Australian Community Renewable Energy Sector: Challenges and Opportunities*, Sydney: Backroad Connections, Community Power Agency, and the Institute of Sustainable Futures.

- Jacques, P. (2008), 'Ecology, distribution, and identity in the world politics of environmental skepticism', *Capitalism Nature Socialism*, 19(3): 8-28.
- Jacques, P. (2012), 'A general theory of climate denial', *Global Environmental Politics*, 12(2): 9-17.
- Jacques, P., Dunlap, R. & Freeman, M. (2008), 'The organisation of denial: Conservative think tanks and environmental scepticism', *Environmental Politics*, 17(3): 349-385.
- Jagers, S. & Strippel, J. (2003), 'Climate governance beyond the state', *Global Governance*, 9: 385-399.
- Jagers, S.C. & Hammar, H. (2009), 'Environmental taxation for good and for bad: The efficiency and legitimacy of Sweden's carbon tax', *Environmental Politics*, 18(2): 218-237.
- Jänicke, M. (1990), *State Failure: The Impotence of Politics in Industrial Society*, Cambridge: Polity Press.
- Jänicke, M. & Jacob, K. (2004), 'Lead markets for environmental innovations: A new role for the nation state', *Global Environmental Politics*, 4(1): 29-46.
- Jasper, J.M. (2004), 'A strategic approach to collective action: Looking for agency in social-movement choices', *Mobilization: An International Quarterly*, 9(1): 1-16.
- Jessop, B. (1998), 'The rise of governance and the risks of failure: The case of economic development', *International Social Science Journal*, 50(155): 29-45.
- Jessop, B. (1999), 'The strategic selectivity of the state: Reflections on a theme of Poulantzas', *Journal of the Hellenic Diaspora*, 25(1-2): 1-37.
- Jessop, B. (2000), 'Governance failure', in G. Stoker (ed.), *The New Politics of British Local Governance*, London: Macmillan.
- Jessop, B. (2002), *The Future of the Capitalist State*, Cambridge: Polity Press.
- Jessop, B. (2003), 'Governance and Metagovernance: On reflexivity, requisite variety, and requisite irony', in H.P. Bang (ed.), *Governance as Social and Political Communication*, Manchester: Manchester University Press.
- Jessop, B. (2004), 'Critical semiotic analysis and cultural political economy', *Critical Discourse Studies*, 1(2): 159-174.
- Jessop, B. (2008), *State Power: A Strategic Relational Approach*, Cambridge: Polity Press.
- Jessop, B. (2010), 'Cultural political economy and critical policy studies', *Critical policy studies*, 3(3-4): 336-356.
- Jessop, B. (2014), 'Towards a political ontology of state power: A comment on Colin Hay's article', *The British Journal of Sociology*, 65(3): 481-486.
- Jinnah, S., Bushey, D., Muñoz, M. & Kulovesi, K. (2009), 'Tripping points: Barriers and bargaining chips on the road to Copenhagen', *Environmental Research Letters*, 4: 1-6.
- Johnson, S. (2010), 'Possible should become probable', *Daily Telegraph*, 4 December.
- Johnston, J. & Goodman, J. (2006), 'Hope and activism in the ivory tower: Freiean lessons for critical globalisation research', *Globalizations*, 3(1): 9-30.
- Jones, P. (2009), 'Saving the planet or selling off the atmosphere? Emissions trading, capital accumulation and the carbon rent', *Marxist Interventions*, 1: 9-22.
- Jones, R. & Brain, C. (2012), 'Outback carbon farming venture faces shake-up', *ABC News*, 12 October.
- Jordan, A., Wurzel, R., Zito, A.R. & Brückner, L. (2003), 'European governance and the transfer of 'new' environmental policy instruments (NEPIs) in the European Union', *Public Administration*, 81(3): 555-574.

- Jotzo, F. (2011), 'Carbon pricing that builds consensus and reduces Australia's emission: Managing uncertainties using a rising fixed price evolving to emissions trading', unpublished, Centre of Climate Economics and Policy, ANU.
- Karben, N. et al. (2012), An open letter to the Honorable A. Teras Narang, Governor of Central Kalimantan, 29 August, Desa Mantangai Hulu.
- Karsenty, A. (2009), *What the (Carbon) Market Cannot Do...* Perspective, Paris: CIRAD.
- Karsenty, A. & Ongolo, S. (2011), 'Can “fragile states” decide to reduce their deforestation? The inappropriate use of the theory of incentives with respect to the REDD mechanism', *Forest Policy and Economics*, 18: 38-45.
- Karvelas, P. & Hepworth, A. (2010), 'Cabinet to lock in reworked climate policy', *The Australian*, 12 July.
- Kelly, J. (2011), 'Families to be over-compensated for carbon tax price rises: Labor', *The Australian*, 10 July.
- Kelly, J. (2013), 'Bandt 'politicising' blazes was disgusting', *The Australian*, 19 October.
- Kelly, P. (2007a), 'Green light on the hill is hard to miss', *The Australian*, 4 April.
- Kelly, P. (2007b), 'Our Stern' in for a fight', *The Australian*, 5 May.
- Kelly, P. (2014), *Triumph and Demise: The Broken Promise of a Labor Generation*, Melbourne: Melbourne University Press.
- Kelly, P. & Shanahan, D. (2010), 'Julia Gillard's carbon price promise', *The Australian*, 20 August.
- Kelly, R. & Kerin, J. (1990), *Joint Statement: Government sets targets for reductions in greenhouse gases*, 11 October, 11 October, Canberra: Commonwealth of Australia.
- Keogh, M. (2009), *Evidence to Senate Select Committee on Climate Policy: Emissions Trading and Reducing Carbon Pollution*, 28 April, Sydney: Hansard, Commonwealth of Australia.
- Kingdon, J.W. (1984), *Agendas, Alternatives, and Public Policies*, vol. 45, Boston: Little, Brown.
- Knott, M. (2014), 'Julia Gillard partly to blame for demise of carbon price, says Christine Milne', *Sydney Morning Herald*, 20 July.
- Knox-Hayes, J. (2010), 'Constructing carbon market spacetime: Climate change and the onset of neo-modernity', *Annals of the Association of American Geographers*, 100(4): 953-962.
- Kolk, A. & Levy, D. (2001), 'Winds of change: Corporate strategy, climate change and oil multinationals', *European Management Journal*, 19(5): 501-509.
- Kolk, A., Levy, D. & Pinkse, J. (2008), 'Corporate Responses in an emerging climate regime: The institutionalization and commensuration of carbon disclosure', *European Accounting Review*, 17(4): 719-745.
- Kolk, A. & Mulder, G. (2011), 'Regulatory uncertainty and opportunity seeking: The case of clean development', *California Management Review*, 54(1): 88-106.
- Lacher, H. (1999), 'The politics of the market: Re-reading Karl Polanyi', *Global Society: Journal of Interdisciplinary International Relations*, 13(3): 313-326.
- Laclau, E. (2005), *On Populist Reason*, London: Verso.
- Lahsen, M. (2005), 'Technocracy, democracy, and US climate politics: the need for demarcations', *Science, Technology & Human Values*, 30(1): 137-169.
- Lam, S.K., Chen, D., Mosier, A.R. & Roush, R. (2013), 'The potential for carbon sequestration in Australian agricultural soils is technically and economically limited', *Scientific Reports*, 3: <http://www.nature.com/articles/srep02179>.

- Lane, M.B. (2003), 'Decentralization or privatization of environmental governance? Forest conflict and bioregional assessment in Australia', *Journal of Rural Studies*, 19(3): 283-294.
- Lang, C. (2010), 'REDD projects in Papua New Guinea: "Legally untenable"', in J. Cabello & T. Gilbertson (eds), *No REDD: A Reader*, Barcelona: Carbon Trade Watch and Indigenous Environment Network.
- Lawrence, P. (2009), 'Australian climate policy and the Asia Pacific partnership on clean development and climate (APP). From Howard to Rudd: continuity or change?', *International Environmental Agreements: Politics, Law and Economics*, 9(3): 291-299.
- Lawson, D. (2009), *Evidence to Senate Select Committee on Climate Policy: Emissions Trading and Reducing Carbon Pollution*, 21 April, Sydney: Hansard, Commonwealth of Australia.
- Leaton, J. et al. (2013), *Unburnable Carbon 2013: Wasted Capital and Stranded Assets*, London: Carbon Tracker & The Grantham Research Institute.
- Lederer, M. (2012a), 'Market making via regulation: The role of the state in carbon markets', *Regulation & Governance*, 6(4): 524-544.
- Lederer, M. (2012b), 'The practice of carbon markets', *Environmental Politics*, 21(4): 640-656.
- Lee, T. (2010), 'BHP's chief Marius Kloppers pushes carbon tax', *The Australian*, 16 September.
- Levin, P. & Espeland, W.N. (2002), 'Pollution futures: Commensuration, commodification, and the market for air', in A.J. Hoffman & M.J. Ventresca (eds), *Organisations, Policy, and the Natural Environment*, Stanford: Stanford University Press.
- Levy, D. & Egan, D. (1998), 'Capital contests: National and transnational channels of corporate influence on the climate change negotiations', *Politics and Society*, 26: 337-362.
- Levy, D. & Egan, D. (2003), 'A neo-Gramscian approach to corporate political strategy: Conflict and accomodation in the climate negotiations', *Journal of Management Studies*, 40(4): 803-829.
- Levy, D. & Newell, P. (eds) (2005), *The Business of Global Environmental Governance*, Cambridge: MIT Press.
- Levy, D. & Spicer, A. (2013), 'Contested imaginaries and the cultural political economy of climate change', *Organization*, 20(5): 659-678.
- Liston, G. (2012), 'Qantas to buy conservation zone carbon credits', *ABC News*, 27 July.
- LNP (2010), *The Coalition's Direct Action Plan*, Environment and Climate Change, Canberra: Liberal / National Party Coalition.
- Lo, A. & Spash, C. (2012), 'How green is your scheme? Greenhouse gas control the Australian way', *Energy Policy*, 50: 150-153.
- Lockie, S. (2000), 'Environmental governance and legitimation: State-community interactions and agricultural land degradation in Australia', *Capitalism Nature Socialism*, 11(2): 41-58.
- Lohmann, L. (2005), 'Marketing and making carbon dumps: Commodification, calculation and counterfactuals in climate change mitigation', *Science as culture*, 14(3): 203-235.
- Lohmann, L. (2006), 'A Critical Conversation on Climate Change, Privatisation and Power', *Development Dialogue*, 68(September).
- Lohmann, L. (2008), 'Carbon trading, climate justice and the production of ignorance: Ten examples', *Development*, 51(3): 359-365.

- Lohmann, L. (2009a), 'Regulation as corruption in the carbon offset markets', in S. Böhm & S. Dabhi (eds), *Upsetting the Offset: The Political Economy of Carbon Markets*, London: Mayfly Books.
- Lohmann, L. (2009b), 'Toward a different debate in environmental accounting: The cases of carbon and cost-benefit', *Accounting, Organizations and Society*, 34(3-4): 499-534.
- Lohmann, L. (2010), 'Uncertainty markets and carbon markets: Variations on Polanyian themes', *New Political Economy*, 15(2): 225-254.
- Lohmann, L. (2011), 'The endless algebra of climate markets', *Capitalism Nature Socialism*, 22(4): 93-116.
- Lohmann, L. (2012a), 'Financialization, commodification and carbon: The contradictions of neoliberal climate policy', *Socialist Register*, 48: 85-107.
- Lohmann, L. (2012b), 'A rejoinder to Matthew Paterson and Peter Newell', *Development and Change*, 43(5): 1177-1184.
- Longmire, A., Taylor, C. & Wedderburn-Bisshop, G. (2010), *Zero Carbon Australia Land Use: Agriculture and Forestry Discussion Paper*, Melbourne: The University of Melbourne Energy Research Institute and Beyond Zero Emissions.
- Lövbrand, E. & Strippel, J. (2006), 'The climate as political space: On the territorialisation of the global carbon cycle', *Review of International Studies*, 32: 217-235.
- Lovell, H. & Liverman, D. (2010), 'Understanding carbon offset technologies', *New Political Economy*, 15(2): 255-273.
- Lovell, H. & MacKenzie, D. (2011), 'Accounting for carbon: The role of accounting professional organisations in governing climate change', *Antipode*, 43(3): 704-730.
- Lovell, H. & MacKenzie, D. (2014), 'Allometric equations and timber markets: An important forerunner for REDD+?', in B. Stephan & R. Lane (eds), *The Politics of Carbon Markets*, London: Routledge.
- Lovins, L.H. & Cohen, B. (2011), *Climate Capitalism: Capitalism in the Age of Climate Change*, London: Macmillan.
- Lowe, I. (2005), *A Big Fix: Radical Solutions for Australia's Environmental Crisis*, Melbourne: Black Inc.
- Lowe, I. (2014), Interview 28, 21 January, Sydney.
- Lowenstein, A. (2013), Interview 21, 18 December, Sydney.
- Lowy Institute (2014), *Climate change*, 11 February 2015
<<http://www.lowyinstitute.org/lowyinstitutepollinteractive/climatechange.php#graph4-1>>.
- Luke, T.W. (2008), 'The politics of true convenience or inconvenient truth: Struggles over how to sustain capitalism, democracy, and ecology in the 21st century', *Environment and Planning A*, 40(8): 1811-1824.
- Lukes, S. (1974), *Power*, London: Macmillan.
- Lund, E. (2010), 'Dysfunctional delegation: Why the design of the CDM's supervisory system is fundamentally flawed', *Climate Policy*, 10(3): 277-288.
- Lynas, M. (2007), *Six Degrees: Our Future on a Hotter Planet*, London: Fourth Estate.
- Lyster, R. (2003-2004), 'Common but differentiated? Australia's response to global climate change', *Georgetown International Environmental Law Review*, 16: 561-591.
- Lyster, R. (2011), 'REDD+, transparency, participation and resource rights: the role of law', *Environmental Science & Policy*, 14(2): 118-126.
- MacCallum, M. (2010), 'Kevin Rudd and the Luck Country', *Quarterly Essay*, 36.

- MacGregor, S. (2009), 'A stranger silence still: The need for feminist social research on climate change', *The Sociological Review*, 57: 124-140.
- MacGregor, S. (2010), 'Gender and climate change: From impacts to discourses', *Journal of the Indian Ocean Region*, 6(2): 223-238.
- Macintosh, A. (2010), *Reducing Emissions from Deforestation and Forest Degradation in Developing Countries: A Cautionary Tale From Australia*, Policy Brief No.12, Canberra: The Australia Institute.
- Macintosh, A. (2012), 'The Australia clause and REDD: A cautionary tale', *Climatic change*, 112(2): 169-188.
- MacKenzie, D. (2009), 'Making things the same: Gases, emission rights and the politics of carbon markets', *Accounting, Organizations and Society*, 34(3-4): 440-455.
- Maddison, S. & Hamilton, C. (eds) (2007), *Silencing Dissent: How the Australian Government is Controlling Public Opinion and Stifling Debate*, Sydney: Allen & Unwin.
- Maddison, S. & Scalmer, S. (2006), *Activist Wisdom: Practical Knowledge and Creative Tension in Social Movements*, Sydney: UNSW Press.
- Maher, J. (2014), Interview 51, 21 March, Sydney.
- Maher, S. (2009), 'Coal firms' advertisements hit emissions plan ', *The Australian*, 29 September.
- Maher, S. (2011a), 'Carbon tax 'will cost 4000 coal jobs'', *The Australian*, 14 June.
- Maher, S. (2011b), 'States face call to axe climate schemes', *The Australian*, 24 August.
- Maher, S. (2011c), 'System crowded with hundreds of greenhouse policies', *The Australian*, 20 September.
- Maher, S. & Hepworth, A. (2011), 'ACTU joins chorus on protecting jobs', *The Australian*, 13 June.
- Malm, A. (2013), 'The origins of fossil capital: From water to ateam in the British cotton industry', *Historical Materialism-Research in Critical Marxist Theory*, 21(1): 15-68.
- Malpas, J. & Wickham, G. (1995), 'Governance and failure: On the limits of sociology', *Journal of Sociology*, 31(3): 37-50.
- Manne, R. (2008), 'What's Rudd's agenda', *The Monthly*, November.
- Mansfield, B. (2007), 'Privatization: Property and the remaking of nature–society relations: Introduction to the special issue', *Antipode*, 39(3): 393-405.
- Markandya, A. (2009), 'Can climate change be reversed under capitalism?', *Development and Change*, 40(6): 1139-1152.
- Markandya, A. & Barbier, E. (2013), *A New Blueprint for a Green Economy*, London: Earthscan.
- Marr, D. (2010), 'Power trip: The political journey of Kevin Rudd', *Quarterly Essay*, 38.
- Martin, P. (2008), 'Carbon scheme unworkable: Economist', *Sydney Morning Herald*, 16 August.
- Martin, P. (2011), 'Rising power prices blamed on over-investment', *Sydney Morning Herald*, 21 June.
- Marx, K. (1969[1863]), *Theories of Surplus Value. Volume 2*, London: Lawrence and Wishart.
- Marx, K. (1976[1867]), *Capital: A Critique of Political Economy, Volume I*, Harmondsworth: Penguin.
- Marx, K. (1981), *Capital: A Critique of Political Economy, Volume III*, Harmondsworth: Penguin.
- Massola, J. (2010), 'Julie Gillard accused of failure of leadership on climate change policy', *The Australian*, 23 July.

- Mather, J. (2014), 'Split Direct Action to give miners more preparation time: MCA', *Australian Financial Review*, 5 March.
- Matt, E. & Okereke, C. (2014), 'A neo-Gramscian account of carbon markets: The cases of the European emissions trading scheme and the Clean Development Mechanism', in B. Stephan & R. Lane (eds), *The Politics of Carbon Markets*, London: Routledge.
- Mc-Kenzie-McHarg, V. & Wakeham, M. (2009), *Off target: The fundamental flaws in the Rudd Government's Carbon Pollution Reduction Scheme*, Melbourne: Environment Victoria.
- McAfee, K. (2012a), 'The contradictory logic of global ecosystem services markets', *Development and Change*, 43(1): 105-131.
- McAfee, K. (2012b), 'Nature in the Market-World: Ecosystem services and inequality', *Development*, 55(1): 25-33.
- McCarthy, J. (2012), 'The financial crisis and environmental governance 'after' neoliberalism', *Tijdschrift voor Economische en Sociale Geografie*, 103(2): 180-195.
- McCarthy, J. (2013), 'We have never been "post-political"', *Capitalism Nature Socialism*, 24(1): 19-25.
- McCrann, T. (2013), 'Government's Bureau of Resources and Energy Economics may have inadvertently captured Australia's looming resources investment cliff', *The Australian*, 28 November.
- McCright, A.M. & Dunlap, R.E. (2000), 'Challenging global warming as a social problem: An analysis of the conservative movement's counter-claims', *Social Problems*, 47: 499.
- McCright, A.M. & Dunlap, R.E. (2010), 'Anti-reflexivity: The American conservative movement's success in undermining climate science and policy', *Theory, Culture & Society*, 27(2-3): 100-133.
- McCright, A.M. & Dunlap, R.E. (2011a), 'Cool dudes: The denial of climate change among conservative white males in the United States', *Global Environmental Change*, 21(4): 1163-1172.
- McCright, A.M. & Dunlap, R.E. (2011b), 'The politicization of climate change and polarization in the American public's views of global warming, 2001–2010', *The Sociological Quarterly*, 52(2): 155-194.
- McDonald, M. (2005), 'Fair weather friend? Ethics and Australia's approach to global climate change', *Australian Journal of Politics & History*, 51(2): 216-234.
- McGee, J. & Taplin, R. (2006), 'The Asia-Pacific partnership on clean development and climate: A complement or competitor to the Kyoto protocol?', *Global Change, Peace & Security*, 18(3): 173-192.
- McIntosh, A. (2012), 'Thinking space: Ten truths about Australia's rush to mine and the mining workforce', *Australian Geographer*, 43(4): 331-337.
- McKewon, E. (2012), 'Duelling realities: Conspiracy theories vs climate science in regional newspaper coverage of Ian Plimer's book, *Heaven and Earth*', *Rural Society*, 21(2): 99-115.
- McKibben, B. (2012), 'Global warming's terrifying new math', *Rolling Stone*, 19 July.
- McKibben, B. & Palese, B. (2009), 'Why 350 is a magic number', *New Matilda*, 20 October.
- McKibbin, W. (2013), Interview 22, 19 December, Canberra.
- McKibbin, W.J. & Wilcoxon, P.J. (2002), *Climate Change Policy After Kyoto: Blueprint for a Realistic Approach*, Washington: Brookings Institution Press.

- Meckling, J. (2008), 'Corporate policy preferences in the EU and the US: Emissions trading as the climate compromise?', *Carbon and Climate Law Review*, 2: 171-180.
- Meckling, J. (2011a), *Carbon Coalitions: Business, Climate Politics, and the Rise of Emissions Trading*, Massachusetts: MIT Press.
- Meckling, J. (2011b), 'The globalization of carbon trading: Transnational business coalitions in climate politics', *Global Environmental Politics*, 11(2): 26-50.
- Metcalf, G.E. (2009), 'Designing a carbon tax to reduce U.S. greenhouse gas emissions', *Review of Environmental Economics and Policy*, 3(1): 63-83.
- Metherell, L. & Hawley, S. (2013), 'Tony Abbott says ETS a 'market in an invisible substance'; Labor denies scrapping carbon price will leave \$6bn budget hole', *ABC News*, 15 July.
- Michaelowa, A. (1998), 'Climate policy and interest groups: A public choice analysis', *Intereconomics*, 33(6): 251-259.
- Michaelowa, A. (2005), *CDM: Current Status and Possibilities for Reform* Hamburg: Hamburg Institute of International Economics.
- Michaelowa, A. (2011), 'Book review: Failures of global carbon markets and CDM?', *Climate Policy*, 11(1): 839-841.
- Michaelowa, A. & Butzengeiger, S. (2005), 'EU emissions trading: Navigating between Scylla and Charybdis', *Climate Policy*, 5(1): 1-9.
- Mikler, J. & Harrison, N.E. (2013), 'Climate innovation: Australian corporate perspectives on the role of government', *Australian Journal of Politics & History*, 59(3): 414-428.
- Milne, C. (2009a), *Why the Greens Could not Support the CPRS*, May, Canberra: Australian Greens.
- Milne, G. (2009b), 'Wong's ETS unites foes on Left, Right', *The Australian*, 19 October.
- Miragliotta, N. (2013), 'The Australian Greens: Carving out space in a two-party system', *Environmental Politics*, 22(5): 706-727.
- Mol, A.P. (2000), 'The environmental movement in an era of ecological modernisation', *Geoforum*, 31(1): 45-56.
- Mol, A.P.J., Sonnenfeld, D.A. & Spaargaren, G. (eds) (2009a), *The Ecological Modernisation Reader: Environmental Reform in Theory and Practice*, London: Routledge.
- Mol, A.P.J., Sonnenfeld, D.A. & Spaargaren, G. (2009b), 'Ecological modernisation: Three decades of policy, practice and theoretical reflection', in A.P.J. Mol, D.A. Sonnenfeld & G. Spaargaren (eds), *The Ecological Modernization Reader Environmental Reforms in Theory and Practice*, London: Routledge.
- Monbiot, G. (2006), *Heat: How to Stop the Planet Burning*, London: Penguin.
- Montgomery, W.D. (1972), 'Markets in licenses and efficient pollution control programs', *Journal of Economic Theory*, 5(3): 395-418.
- Moore, J.W. (2011), 'Ecology, capital, and the nature of our times: Accumulation and crisis in the capitalist world-ecology', *Journal of World-Systems Research*, 17(1): 108-147.
- Moran, A. (2012), 'Costs lost in the focus on climate', *The Australian*, 17 October.
- Moran, A., Chisholm, A. & Porter, M. (eds) (1991), *Markets, Resources and the Environment*, National Priorities Project 1991, North Sydney: Allen & Unwin, National Priorities Project and Tasman Institute.
- Morris, D. (2013), *Drifting Towards Disaster? The ETS Adrift in Europe's Climate Efforts*, 2013 Environmental Outlook for the EU ETS, London: Sandbag.
- Morris, S. (2014), 'Nick Xenophon's ploy to price carbon', *Saturday Paper*, 18 October.

References

- MPCCC (2011), *Multi-Party Climate Change Committee Clean Energy Agreement*, Canberra: Multi-Party Climate Change Committee.
- Mueller, D. (2003), *Public Choice III*, Cambridge: Cambridge University Press.
- Munden Project (2011), *REDD and Forest Carbon: Market-Based Critique and Recommendations*, The Munden Project.
- Murphy, M. (2010), 'Carbon tax call 'clumsy'', *Sydney Morning Herald*, 22 September.
- NEMMCO (1999), *Annual Report*, Melbourne: National Electricity Market Management Company.
- NewClimate Institute (2015), *Carbon Market Mechanisms: Role in Future International Cooperation on Climate Change*, Cologne: NewClimate Institute 2015 by order of German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB).
- Newell, P. (2000), *Climate for Change: Non-State Actors and the Global Politics of the Greenhouse*, Cambridge: Cambridge University Press.
- Newell, P. (2008), 'Civil society, corporate accountability and the politics of climate change', *Global Environmental Politics*, 8(3): 122-153.
- Newell, P. (2012), 'The political economy of carbon markets: The CDM and other stories', *Climate Policy*, 12(1): 135-139.
- Newell, P. & Paterson, M. (1998), 'A climate for business: Global warming, the state and capital', *Review of International Political Economy*, 5(4): 679-703.
- Newell, P. & Paterson, M. (2010), *Climate Capitalism: Global Warming and the Transformation of the Global Economy*, Cambridge: Cambridge University Press.
- Newspoll (undated-a), *Better Prime Minister: "Who do you think would make a better Prime Minister?"*, Newspoll and *The Australian*, viewed 15 January 2015
<http://polling.newspoll.com.au/cgi-bin/polling/display_poll_data.pl?url_caller=trend&mode=trend&page=show_polls&question_set_id=1>.
- Newspoll (undated-b), *Satisfaction with Prime Minister: "Are you satisfied or dissatisfied with the way.. is doing his (her) job as Prime Minister?"*, Newspoll and *The Australian*, viewed 15 January 2015
<http://polling.newspoll.com.au/cgi-bin/polling/display_poll_data.pl?url_caller=trend&mode=trend&page=show_polls&question_set_id=1>.
- NFF (2009), *National Farmers Federation submission to Senate Select Committee on Climate Policy: Report*, June, Canberra: Hansard, Commonwealth of Australia.
- NFF (2012), *NFF Farm Facts: 2012*, Brisbane: National Farmers Federation.
- NGMC (1992), *National Grid Protocol: First Issue*, December, Canberra: National Grid Management Council.
- Nicholls, S. (2014), 'Six-month freeze on NSW coal seam gas exploration licences', *Sydney Morning Herald*, 26 March.
- Nogrady, B. (2013), 'Overhauling environmental laws', *ABC Environment*, 7 March.
- NSW Auditor-General (2013), *New South Wales Auditor-General's Report: Financial Audit*, Volume Four, Focusing on Electricity, Sydney: Audit Office of New South Wales.
- Nyberg, D., Spicer, A. & Wright, C. (2013), 'Incorporating citizens: corporate political engagement with climate change in Australia', *Organization*, 20(3): 433-453.
- O'Connor, J. (1981), 'The meaning of crisis', *International Journal of Urban and Regional Research*, 5(3): 301-329.

- O'Connor, J. (ed.) (1998), *Natural Causes: Essays in Ecological Marxism*, New York: The Guilford Press.
- O'Connor, S. (2014), Interview 41, 6 February, Melbourne.
- O'Connor, S. & Pascoe, O. (2009), *Projected Financial Impact of Expanded Compensation under the rCarbon Pollution Reduction Scheme (CPRS)*, Melbourne: Australian Conservation Foundation.
- O'Hara, P.A. (2009), 'Political economy of climate change, ecological destruction and uneven development', *Ecological Economics*, 69(2): 223-234.
- O'Gorman, M. & Jotzo, F. (2014), *Impact of the carbon price on Australia's electricity demand, supply and emissions*, CCEP Working Paper 1411, Canberra: Crawford School of Public Policy, The Australian National University.
- OECD (1994), *Managing the Environment: The Role of Economic Instruments*, Paris: OECD.
- OECD (2010), *Measuring Support to Energy - Version 1.0*, Paris: Organisation for Economic Co-operation and Development Secretariat.
- Offe, C. (1985), 'New social movements: Challenging the boundaries of institutional politics', *Social Research*, 52(4): 817-868.
- Ogge, M. (2013), Interview 05, 25 November, Melbourne.
- Okereke, C. & Dooley, K. (2010), 'Principles of justice in proposals and policy approaches to avoided deforestation: Towards a post-Kyoto climate agreement', *Global Environmental Change*, 20: 82-95.
- Olbrei, E. & Howes, S. (2012), *A Very Real and Practical Contribution? Lessons from the Kalimantan Forests and Climate Partnership* Discussion Paper 16, Canberra: Development Policy Centre Australian National University.
- Oliver, A. (2014), *Lowy Institute Poll 2014*, Australia and the World, 24 July, Sydney: Lowy Institute.
- Oreskes, N. & Conway, E.M. (2010), *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*, London: Bloomsbury.
- Ozga, J. (1987), 'Studying education policy through the lives of the policy-makers: An attempt to close the macro-micro gap', in S. Walker & L. Barton (eds), *Changing Policies, Changing Teachers: New Directions for Cchooling*, Milton Keynes: Open University Press.
- Papadakis, E. & Grant, R. (2003), 'The politics of 'light handed regulation': New environmental policy instruments in Australia', *Environmental Politics*, 12(1): 25-50.
- Parenti, C. (2015), 'The 2013 Antipode AAG Lecture: The Environment Making State: Territory, Nature, and Value', *Antipode*, 47(4): 829-848.
- Parkinson, G. & Vorrath, S. (2011), 'Great big new tax debate: The quotes', *ClimateSpectator*, 12 October.
- Parkinson, M. (2010), 'Why economists need to engage in the CPRS debate', paper presented to the *Sir Leslie Melville lecture*, Australian National University, 28 June.
- Passey, R., Bailey, I., Twomey, P. & MacGill, I. (2012), 'The inevitability of 'flotilla policies' as complements or alternatives to flagship emissions trading schemes', *Energy Policy*, 48: 551-561.
- Passey, R., MacGill, I. & Outhred, H. (2008), 'The governance challenge for implementing effective market-based climate policies: A case study of The New South Wales Greenhouse Gas Reduction Scheme', *Energy Policy*, 36(8): 3009-3018.

References

- Paterson, M. (1996), *Global Warming and Global Politics*, London: Routledge.
- Paterson, M. (2010), 'Legitimation and accumulation in climate change governance', *New Political Economy*, 15(3): 345-368.
- Paterson, M. & Newell, P. (2012), 'Of heroes, villains and climate capitalism: A response to Larry Lohmann', *Development and Change*, 43(5): 1171-1175.
- Paterson, M. & Stripple, J. (2012), 'Virtuous carbon', *Environmental Politics*, 21(4): 563-582.
- Paton, J. & Bryant, G. (2012), 'Valuing pollution: Problems of price in the commodification of nature', *Economic and Labour Relations Review*, 23(1): 87-106.
- Pearce, D. (2009), *Review of the Proposed CPRS*, Sydney and Canberra: Centre for International Economics for Menzies Research Centre.
- Pearce, D.W. (2006), 'The political economy of an energy tax: The United Kingdom's Climate Change Levy', *Energy Economics*, 28(2): 149-158.
- Pearce, D.W., Markandya, A. & Barbier, E. (1989), *Blueprint for a Green Economy*, London: Earthscan.
- Pearce, D.W. & Turner, R.K. (1990), *Economics of Natural Resource and the Environment*, Baltimore: John Hopkins University Press.
- Pearman, G. (1989), 'Report on Reports: Greenhouse: Planning for climate change', *Environment: Science and Policy for Sustainable Development*, 31(5): 25-27.
- Pearse, G. (2007), *High and Dry: John Howard, Climate Change and the Selling of Australia's Future*, Camberwell: Viking.
- Pearse, G. (2009), 'Quarry vision: Coal, climate change and the end of the resources boom', *Quarterly Essay*, 33.
- Pearse, G. (2010a), 'Australia's precious place in the coal industry's world', *Chain Reaction*, <<http://www.foe.org.au/resources/chain-reaction/editions/111/australias-precious-place-in-the-coal-industrys-world>>.
- Pearse, R. (2010b), 'Making a market? Contestation and climate change', *Journal of Australian Political Economy*, 66: 166-198.
- Pearse, R. (2012), 'Mapping REDD in the Asia-Pacific: Governance, marketisation and contention', *Ephemera: Theory and Politics in Organization*, 12(1): 181-205.
- Pearse, R. (2013), 'Back to the land? Legitimation, carbon offsets and Australia's emissions trading scheme', *Global Change, Peace & Security*, 25(1): 43-60.
- Pearse, R. (2014a), 'Carbon trading for climate justice?', *The Asia Pacific Journal of Environmental Law*, 17: 111-130.
- Pearse, R. (2014b), 'Review essay: Climate capitalism and its discontents', *Global Environmental Politics*, 14(1): 130-135.
- Pearse, R. & Böhm, S. (2015), 'Ten reasons why carbon markets will not bring about radical emissions reduction', *Carbon Management*, 5(4): 325-337.
- Pearse, R. & Dehm, J. (2011), *In the REDD: Australia's Carbon Offset Project in Central Kalimantan*, Amsterdam: Friends of the Earth International.
- Pearse, R., Goodman, J. & Rosewarne, S. (2010), 'Researching direct action against carbon emissions: A digital ethnography of climate agency', *Cosmopolitan Civil Societies: An Interdisciplinary Journal*, 2(3): 76-103.
- Pearse, R., Rosewarne, S. & Goodman, J. (under review), 'Climate radicalism in Australia, 2007-2010: Fossil fuel dependence and anti-systemic movement politics', *Journal of International Relations and Development*.
- Peel, M., Campbell, R. & Denniss, R. (2014), *Mining the Age of Entitlement: State Government Assistance to the Minerals and Fossil Fuel Sector*, Canberra: The Australia Institute.

- Pellizzoni, L. (2011), 'Governing through disorder: Neoliberal environmental governance and social theory', *Global Environmental Change*, 21(3): 795-803.
- Perry, N., Rosewarne, S. & White, G. (2013), 'Clean energy policy: Taxing carbon and the illusion of the equity objective', *Ecological Economics*, 90: 104-113.
- Pezzey, J. (2009), *Evidence to Senate Select Committee on Climate Policy: Emissions Trading and Reducing Carbon Pollution*, 16 April, Canberra: Hansard, Commonwealth of Australia.
- Pezzey, J., Mazouz, S. & Jotzo, F. (2010), 'The logic of collective action and Australia's climate policy', *Australian Journal of Agricultural and Resource Economics*, 54(2): 185-202.
- Phillips, B. & Taylor, M. (2011), *Clean energy future plan: Household modelling*, Research Note, no. 11, Canberra: The National Centre for Social and Economic Modelling, University of Canberra.
- Pierce, J. (2012), *Evidence to Senate Select Committee on Electricity Prices*, 25 September, Sydney: Hansard, Commonwealth of Australia.
- Pietsch, J. & McAllister, I. (2010), 'A diabolical challenge': Public opinion and climate change policy in Australia', *Environmental Politics*, 19(2): 217-236.
- Pigou, A.C. (1932), *The Economics of Welfare*, London: Macmillan.
- Pinkse, J. & Kolk, A. (2009), *International Business and Global Climate Change*, London: Routledge.
- Pinkse, J. & Kolk, A. (2012), 'Multinational enterprises and climate change: Exploring institutional failures and embeddedness', *Journal of International Business Studies*, 43(3): 332-341.
- Pittock, A.B. (ed.) (2003), *Climate Change: An Australian Guide to the Science and Potential Impacts*, Canberra: Australian Greenhouse Office.
- Pittock, A.B. (2006), *Climate Change Turning Up the Heat*, Melbourne: CSIRO and Earthscan.
- PMC (2007), *Report of the Task Group on Emissions Trading*, Department of Prime Minister and Cabinet, Canberra: Commonwealth of Australia.
- PMC (2008), *First 100 Days: Achievements of the Rudd Government*, Prime Minister and Cabinet, Canberra: Commonwealth of Australia.
- Point Carbon (2008), *EU ETS Phase II – The Potential and Scale of Windfall Profits in the Power Sector*, WWF and Point Carbon Advisory Services.
- Polanyi, K. (1944/2001), *The Great Transformation: The Political and Economic Origins of Our Time*, 2nd edn, Beacon Press: Boston.
- Polanyi, K. (1957), 'The economy as instituted process', in K. Polanyi, C.M. Arensberg & H.W. Pearson (eds), *Trade and Market in the Early Empires. Economies in History and Theory*, New York: Free Press.
- Polanyi, K. (2001[1944]), *The Great Transformation: The Political and Economic Origins of Our Time*, 2nd edn, Beacon Press: Boston.
- Price, D. (2012), 'Carbon compo for brown coal a bigger waste than BER and pink batts', *The Australian*, 5 September.
- Priest, M. (2011), 'Gillard feeds business split on carbon', *BRW*, 5 May.
- Prudham, S. (2005), *Knock on Wood: Nature as Commodity in Douglas-Fir Country*, New York: Routledge.
- Quiggin, J. (2014a), *Electricity Privatisation: A Record of Failure*, Melbourne: Quiggin Opinion and Consulting for Victorian Branch of the Electrical Trades Union.
- Quiggin, J. (2014b), Interview 50, 21 March, Sydney.
- Quiggin, J., Adamson, D. & Quiggin, D. (eds) (2014), *Carbon Pricing: Early Experience and Future Prospects*, Edward Elgar: Northampton.

References

- Rabe, B. (2011), 'Contested federalism and American climate policy', *Publius: The Journal of Federalism*, 41(3): 494-521.
- Reyes, O. (2011), *World Bank Partnership for Market Readiness: A critical introduction*, Carbon Trade Watch, 10 January, viewed 13 November 2014 <<http://www.carbontradewatch.org/archive/world-bank-partnership-for-market-readiness-a-critical-introduction.html>>.
- Reyes, O. (2014), *Life Beyond Emissions Trading*, Brussels: Corporate Observatory Europe.
- Richardson, D. (2013), *Electricity and Privatisation: What Happened to Those Promises?*, Technical Brief No. 22, Canberra: The Australia Institute.
- Ridout, H. (2009), *Evidence to Senate Select Committee on Climate Policy: Emissions Trading and Reducing Carbon Pollution*, 22 April, Melbourne: Hansard, Commonwealth of Australia.
- Robb, A. (2011), 'Climate of taxing choices', *The Australian*, 29 August.
- Roberts, N.C. & King, P.J. (1991), 'Policy entrepreneurs: Their activity structure and function in the policy process', *Journal of Public Administration Research and Theory*, 1(2): 147-175.
- Robson, A. (2014), 'Australia's carbon tax: An economic evaluation', *Economic Affairs*, 34(1): 35-45.
- Robson, F. (2013), 'Tony Abbott backer John Roskam dumps on direct action', *Sydney Morning Herald*, 30 November.
- Rockström, J. et al. (2009), 'Planetary boundaries: Exploring the safe operating space for humanity', *Ecology and Society*, 14(2): 472-475.
- Roe, S., Streck, C., Pritchard, L. & Costenbader, J. (2013), *Safeguards in REDD+ and Forest Carbon Standards: A Review of Social, Environmental and Procedural Concepts and Application*, Amsterdam: Climate Focus.
- Rootes, C. (2008), 'The first climate change election? The Australian general election of 24 November 2007', *Environmental Politics*, 17(3): 473-480.
- Rootes, C. (2014), 'A referendum on the carbon tax? The 2013 Australian election, the Greens, and the environment', *Environmental Politics*, 23(1): 166-173.
- Rose, A. (2007), 'Gray v Minister for Planning: The Rising Tide, of climate change litigation in Australia', *Sydney Law Review*, 29: 725-734.
- Rose, A. (2009), 'Economists speak out against flawed Carbon Trading Scheme', *Crikey*, 18 February.
- Rose, A. (2013), Interview 03, 20 November, Sydney.
- Rosendahl, K.E. & Strand, J. (2011), 'Carbon Leakage from the Clean Development Mechanism', *The Energy Journal*, 32(4): 27-50.
- Rosewarne, S. (2003), 'The Kyoto Protocol and the Australian state's commitment to capital accumulation', *Capitalism Nature Socialism*, 14(1): 1-36.
- Rosewarne, S. (2010), 'Meeting the challenge of climate change: The poverty of the dominant economic narrative and market solutions are subterfuge', *Journal of Australian Political Economy*, 66: 17-50.
- Rosewarne, S. & Goodman, J. (2009), 'The ETS is a huge cost for almost no benefit', *Sydney Morning Herald*, 9 December.
- Rosewarne, S., Goodman, J. & Pearce, R. (2014), *Climate Action Upsurge: The Ethnography of Climate Movement Politics*, London: Routledge.
- Rudd, K. (2006a), 'Faith in politics', *The Monthly*, October: <http://www.themonthly.com.au/monthly-essays-kevin-rudd-faith-politics--300>.

- Rudd, K. (2006b), 'Howard's brutopia', *The Monthly*, November:
<https://www.themonthly.com.au/issue/2006/november/1238384967/kevin-rudd/howard-s-brutopia>.
- Rudd, K. (2007), 'Climate change: Forging a new consensus', *National Climate Change Summit*, 31 March, Parliament House, Canberra.
- Rudd, K. (2008a), *Address to the Centre for Independent Studies*, PM Transcripts, 3 August, <<http://pmtranscripts.dpmc.gov.au/browse.php?did=16044>>.
- Rudd, K. (2008b), *Address to the United Nations General Assembly*, PM Transcripts, 25 September, <<http://pmtranscripts.dpmc.gov.au/browse.php?did=16144>>.
- Rudd, K. (2008c), 'Hard heads, soft hearts: A future reform agenda for the new Australian government', *Progressive Governance Conference*, 4 April, London.
- Rudd, K. (2008d), *Transcript of interview with Barrie Cassidy*, *ABC Insiders*, PM Transcripts, 6 July, <<http://pmtranscripts.dpmc.gov.au/browse.php?did=16002>>.
- Rudd, K. (2008e), *Transcript of interview with Charles Wooley*, *Across Australian Program*, PM Transcripts, 4 July, <<http://pmtranscripts.dpmc.gov.au/browse.php?did=16000>>.
- Rudd, K. (2009), 'The global financial crisis', *The Monthly*, February:
<https://www.themonthly.com.au/issue/2009/february/1319602475/kevin-rudd/global-financial-crisis>.
- Rudd, K. & Badawi, A.B.H.A. (2008), *Joint press conference with Malaysian Prime Minister Abdullah Bin Haji Ahmad Badawi* PM Transcripts, 10 July, <<http://pmtranscripts.dpmc.gov.au/browse.php?did=16008>>.
- Saddler, H. (2013), *Power Down: Why is Electricity Consumption Decreasing?*, Institute Paper no. 14, Canberra: The Australia Institute.
- Saunders, C. (2012), 'Reformism and radicalism in the Climate Camp in Britain: Benign coexistence, tensions and prospects for bridging', *Environmental Politics*, 21(5): 829-846.
- Saurin, J. (2001), 'Global environmental crisis as the 'disaster triumphant': The private capture of public goods', *Environmental Politics*, 10(4): 63-84.
- Say Yes Australia (2011), *Say Yes Australia*, viewed 11 February 2015 <<https://www.youtube.com/watch?v=eprah6RNab4>>.
- Sayer, A. (1992), *Method in Social Science: A Realist Approach*, 2nd edn, London: Routledge.
- Sayer, A. (1995), *Radical Political Economy: A Critique*, Cambridge: Blackwell.
- Sayer, A. (2001), 'For a critical cultural political economy', *Antipode*, 33(4): 687-708.
- SBS (2010), 'Libs, Greens slam citizens' assembly on climate', *SBS News*, 23 July.
- Schlembach, R. (2011), 'How do radical climate movements negotiate their environmental and their social agendas? A study of debates within the Camp for Climate Action (UK)', *Critical Social Policy*, 31(2): 194.
- Schnaiberg, A. (1980), *The Environment: From Surplus to Scarcity*, Oxford: Oxford University Press.
- Schneider, L. (2007), *Is the CDM Fulfilling its Environmental and Sustainable Development Objectives? An Evaluation of the CDM and Options for Improvement*, Berlin: Öko-Institut for Applied Ecology for WWF.
- Secombe, M. (2012), 'Coal? It's over', *Global Mail*, 29 October.
- Shanahan, D. (2011), 'Key union puts Julia Gillard on notice over carbon tax', *The Australian*, 15 April.
- Short, C. & Swan, A. (2002), *Competition in the Australian National Electricity Market*, Current Issues, no. 02.1, January., Canberra: Australian Bureau of Agricultural and Resource Economics.

- Sijm, J., Neuhoff, K. & Chen, Y. (2006), 'CO₂ cost pass-through and windfall profits in the power sector', *Climate Policy*, 6(1): 49-72.
- Simons, A. & Voß, J.-P. (2014), 'Politics by other means: The making of the emissions trading instrument as 'pre-history' of carbon trading', in B. Stephan & R. Lane (eds), *The Politics of Carbon Markets*, London: Routledge.
- Skjaereth, J.B. & Wettestad, J. (2008), *EU Emissions Trading: Initiation, Decision-making and Implementation*, Aldershot: Ashgate.
- Skjaereth, J.B. & Wettestad, J. (2009), 'The origin, evolution and consequences of the EU emissions trading scheme', *Global Environmental Politics*, 9(2): 101-122.
- SMH (2004), 'Latham challenges PM to sign Kyoto deal', *Sydney Morning Herald*, 1 October.
- SMH (2007), 'Take politics out of emissions talk: ACF', *Sydney Morning Herald*, 3 June.
- SMH (2012), 'States get say in Abbott 'green tape' plan', *Sydney Morning Herald*, 20 April.
- Smith, K. (2005), *The Carbon Neutral Myth: Offset Indulgences for Your Climate Sins*, Amsterdam: Transnational Institute.
- Soutar, L. (2014), Interview 45, 12 March, Sydney.
- Sovacool, B.K. (2011), 'The policy challenges of tradable credits: A critical review of eight markets', *Energy Policy*, 39(2): 575-585.
- Spaargaren, G. & Mol, A.P. (2013), 'Carbon flows, carbon markets, and low-carbon lifestyles: Reflecting on the role of markets in climate governance', *Environmental Politics*, 22(1): 174-193.
- Spash, C. (2010), 'The brave new world of carbon trading', *New Political Economy*, 15(2): 169-195.
- Spash, C. (2014), 'Researching carbon trading in Australia', in B. Stephan & R. Lane (eds), *The Politics of Carbon Markets*, London: Routledge.
- Spash, C. & Lo, A. (2011), 'Australia's carbon tax: A sheep in wolf's clothing?', *The Economic and Labour Relations Review*, 23(1): 67-86.
- Spash, C.L. (2011), 'Carbon trading: A critique', in J.S. Dryzek, K.M. Norgaard & D. Schlosberg (eds), *The Oxford Handbook of Climate Change and Society*, Oxford: Oxford University Press.
- Spies-Butcher, B. (2010), 'The cost of a market solution: Examining the Garnaut proposal for emissions trading', *Journal of Australian Political Economy*, (66): 51-70.
- Spratt, D. (2013), Interview 01, 15 November, Melbourne.
- Spratt, D. & Sutton, P. (2008), *Climate Code Red: The Case for Emergency Action*, Brunswick: Scribe.
- Stavins, R.N. (1989), 'Harnessing market forces to protect the environment', *Environment: Science and Policy for Sustainable Development*, 31(1): 5-35.
- Stavins, R.N. (ed.) (1992), *Market-Based Policy Mechanisms for Addressing Global Climate Change*, Environment and Natural Resources Program, Project 88/Round II Project Report P-92-02, Kennedy School of Government, Harvard University.
- Steffen, W. (2013), Interview 23, 19 December, Canberra.
- Step it Up Australia (2009), *Step-In to Step it Up on Climate Change*, <<https://stepitupaustralia.wordpress.com/>>.
- Stephan, B. & Paterson, M. (2012), 'The politics of carbon markets: An introduction', *Environmental Politics*, 21(4): 545-562.

- Stern, N. (2007), *The Economics of Climate Change: The Stern Review*, Cambridge: Cambridge University Press.
- Stockton, J. et al. (2009), *Role of the NEM in Responding to Climate Change Policies*, Sydney: McLennan, Magasanik and Associates for Total Environment Centre.
- Streck, C. (2002), 'Global public policy networks as coalitions for change', in D. Esty & M. Ivanova (eds), *Global Environmental Governance: Options and Opportunities*, New Haven: Yale School of Forestry and Environmental Studies.
- Streck, C. (2004), 'New partnerships in global environmental policy: The Clean Development Mechanism', *The Journal of Environment and Development*, 13(3): 295-322.
- Streck, C. & Lin, J. (2008), 'Making markets work: A review of CDM performance and the need for reform', *European Journal of International Law*, 19(2): 409-442.
- Stripple, J. & Lövbrand, E. (2010), 'Carbon market governance beyond the public-private divide', in F. Biermann, P. Pattberg & F. Zelli (eds), *Climate Governance Beyond 2012: Architecture, Agency and Adaption*, Cambridge: Cambridge University Press.
- Stripple, J. & Lövbrand, E. (2011), 'Making climate change governable: Accounting for carbon as sinks, credits and personal budgets', *Critical Policy Studies*, 5(2): 187-200.
- Stutchbury, M. (2010), 'Worried about big slugs? Try a carbon tax', *The Australian*, 14 September.
- Summers, A. (2013), 'Bully boys win Gillard stoush but we all lose', *Sydney Morning Herald*, 27 June.
- Sunrise Project (undated), *About the Sunrise Project*, viewed 1 December 2014 <<http://www.sunriseproject.org.au/about/>>.
- Surbakti, A. (2012), 'Australian-funded Deforestation Scheme "Total Failure"', *Radio Australia*, 20 June.
- Svendsen, G.T. (1998), *Public Choice and Environmental Regulation: Tradable Permit Systems in the United States and CO2 Taxation in Europe*, Cheltenham: Edward Elgar.
- Svendsen, G.T. (1999), 'US interest groups prefer emission trading: A new perspective', *Public Choice*, 101(1-2): 109-128.
- Switzer, T. (2009), 'Libs owe Nelson an apology', *The Australian*, 4 March.
- Swyngedouw, E. (2010), 'Apocalypse forever? Post-political populism and the spectre of climate change', *Theory, Culture and Society*, 27(2-3): 213-232.
- Syed, A. (2014), *Australian Energy Projections to 2049-50*, Canberra: Australian Bureau of Agricultural and Resources Economics.
- Taplin, R. (1994), 'Greenhouse: An overview of Australian policy and practice', *Australian Journal of Environmental Management*, 1(3): 142-155.
- Taylor, C. (2002), 'Modern social imaginaries', *Public Culture*, 14(1): 91-124.
- Taylor, L. (2009a), 'Business raises carbon claim', *The Australian*, 15 September.
- Taylor, L. (2009b), 'Business wary of \$1.3bn black hole', *The Australian*, 13 August.
- Taylor, L. (2009c), 'Costs to blow out from ETS changes', *The Australian*, 16 October.
- Taylor, L. (2009d), 'Energy industry warns of blackout', *The Australian*, 14 April.
- Taylor, L. (2009e), 'Malcolm Turnbull sets new ETS plan that gears for the recovery', *The Australian*, 30 April.
- Taylor, L. (2009f), 'Rudd denies claims of ETS retreat', *Daily Telegraph*, 13 February.
- Taylor, L. (2009g), 'Tony Abbott's next policy vow: Anything but a "great big new tax"', *The Australian*, 2 December.

References

- Taylor, L. (2010), 'Big business backs push to cut carbon', *The Australian*, 17 September.
- Taylor, L. (2011), 'Abbott plan 'would double carbon cost'', *Sydney Morning Herald*, 15 September.
- Taylor, L. (2015), 'Direct Action climate scheme has been 'neutered', says Nick Xenophon', *The Guardian*, 10 April.
- TCI (2013), *Coalition Climate Policy and the National Climate Interest*, Sydney: The Climate Insite.
- TCI (2014), *Climate of the Nation 2014: Australian Attitudes on Climate Change*, Sydney: The Climate Insite.
- Tews, K., Busch, P.-O. & Jörgens, H. (2003), 'The diffusion of new environmental policy instruments', *European Journal of Political Research*, 42(4): 569-600.
- The Age* (2007), 'Rudd takes Kevin07 online', *The Age*, 7 August.
- The Australian* (2007), 'Rudd's address to the UN conference', *The Australian*, 12 December.
- The Australian* (2013), 'Costly 'direct action' plan clouds the budget message', *The Australian*, 8 July.
- The Greens (2013), *Factsheet: What's Wrong with 'Direct Action'?*, Hobart: Australian Greens Party.
- The Telegraph* (2007), 'Kevin Rudd and the revenge of the nerd', *The Telegraph*, 23 November.
- Thompson, J. (2011), 'Abbott decries 'socialist' carbon scheme', *ABC News*, 11 July.
- Thurbon, E. (2012), 'From developmentalism to neoliberalism and back again? Governing the market in Australia from the 1980s to the present', in C. Kyung-Sup, L. Weiss & B. Fine (eds), *Developmental Politics in Transition: The Neoliberal Era and Beyond*, Basingstoke: Palgrave Macmillan.
- Tietenberg, T.H. (1985), *Emissions Trading: An Exercise in Reforming Pollution Policy*, Washington: Resources for the Future.
- Tietze, T. (2012), *Is the ALP's condition terminal? A crisis of social democracy*, Left Flank, 13 March, viewed 11 November 2014 <<http://left-flank.org/2012/03/13/is-the-alps-condition-terminal-a-crisis-of-social-democracy/>>.
- Tietze, T. (2014), Interview 27, 20 January, Sydney.
- Toke, D. (2011), 'Ecological modernisation, social movements and renewable energy', *Environmental Politics*, 20(1): 60-77.
- Tranter, B. (2011), 'Political divisions over climate change and environmental issues in Australia', *Environmental Politics*, 20(1): 78-96.
- Tranter, B. (2013), 'The great divide: Political candidate and voter polarisation over global warming in Australia', *Australian Journal of Politics & History*, 59(3): 397-413.
- Treasury (2008), *Australia's Low Pollution Future: The Economics of Climate Change Mitigation*, Treasury, Canberra: Commonwealth of Australia.
- Treasury (2009), *Mid-Year Economic and Fiscal Outlook: 2009-10*, Treasury, Canberra: Commonwealth of Australia.
- Treasury (2011a), *Appendix C: Fiscal Tables*, Treasury, Canberra: Commonwealth of Australia.
- Treasury (2011b), *Securing a Clean Energy Future: The Australian Government's Climate Change Plan*, Table 1: Plan for a clean energy future including Government measures, Treasury, Canberra: Commonwealth of Australia.

- Treasury (2011c), *Strong Growth, Low Pollution: Modelling a Carbon Price*, Treasury, Canberra: Commonwealth of Australia.
- Treasury (2013), *Budget Measures: Budget Paper No. 2*, Treasury, Canberra: Commonwealth of Australia.
- Trinca, H. (2010), 'Rudd Undone by the enemy within', *The Australian*, 2 July.
- Turnbull, M. (2009a), ETS: Saving jobs and reducing costs, 24 November, Member for Wentworth.
- Turnbull, M. (2009b), Statement regarding an emissions trading scheme, 24 July, Member for Wentworth.
- UNCTAD (1992), *Combating Global Warming Study on a Global System of Tradeable Carbon Emission Entitlements*, New York: United Nations.
- UNFCCC (1997), Kyoto Protocol to the United Nations Framework Convention on Climate Change, United Nations Framework Convention on Climate Change, Opened for signature 16 March 1998, (entered into force 16 February 2005).
- UNFCCC (2008), Indonesia and Australia Reducing Emissions from Deforestation and Forest Degradation in Developing Countries Joint Submission to the AWG-LCA and SBSTA, (Part I), ad Hoc Working Group on Long-term Cooperative Action under the Convention, 4th session, Poznan, FCCC/AWGLCA/2008/MISC.5/Add.2, (1-10 December).
- Urry, J. (2011), *Climate Change and Society*, Cambridge: Polity Press.
- US Senate (1997), The Byrd-Hagel Resolution, Proceedings and Debates of the 105th Congress, Washington, S. RES. 98 (12 June).
- van der Werf, G.R. et al. (2009), 'CO₂ Emissions from Forest Loss', *Nature Geoscience*, 2(11): 737-738.
- van Griethuysen, P. (2011), *The Social Dimensions of Carbon Trading: Contrasting Economic Perspectives*, Green Economy and Sustainable Development: Bringing Back the Social Dimension, Geneva: United Nations Research Institute for Social Development.
- Vatn, A. (2015), 'Markets in environmental governance. From theory to practice', *Ecological Economics*, 177: 225-233.
- Victor, D.G. & House, J.C. (2006), 'BP's emissions trading system', *Energy Policy*, 34: 2100-2112.
- Vincent, J. (2013), Interview 09, 26 November, Melbourne.
- Vlachou, A. (2004), 'Capitalism and ecological sustainability: The shaping of environmental policies', *Review of International Political Economy*, 11(5): 926-952.
- Voß, J.-P. (2007), 'Innovation processes in governance: The development of 'emissions trading' as a new policy instrument', *Science and Public Policy*, 34(5): 329-343.
- Wakeham, M. (2014), Interview 39, 3 February, Melbourne.
- Walker, K.J. (1999), 'Statist developmentalism in Australia', in K.J. Walker & K. Crowley (eds), *Australian Environmental Policy 2: Studies in Decline + Devolution*, Sydney: UNSW Press.
- Walsh, C. (2011), *Carbon Expo 2011*, viewed 1 March 2012
<<http://www.carbonexpo.com.au/2011-carbon-expo-videos>>.
- Wara, M. (2007), 'Is the global carbon market working?', *Nature*, 445(8): 595-596.
- Ward, I. (2008), 'Kevin07. Labor's pitch to Generation YouTube', *Social Alternatives*, 27(2): 11.
- Wemaere, M., Streck, C. & Chagas, T. (2009), 'Legal ownership and nature of Kyoto and EU allowances', in D. Freestone & C. Streck (eds), *Legal Aspects of Carbon Trading: Kyoto, Copenhagen, and Beyond*, Oxford: Oxford University Press.

References

- Wertz-Kanounnikoff, S. & Kongphan-Apirak, M. (2008), *Reducing Forest Emissions in Southeast Asia: A Review of Drivers of Land-use Change and How Payments for Environmental Services (PES) Schemes Can Affect Them*, Bogor: Center for International Forestry Research.
- Wettestad, J. (2005), 'The making of the 2003 EU emissions trading directive: An ultra-quick process due to entrepreneurial proficiency?', *Global Environmental Politics*, 5(1): 1-23.
- Whelan, J. (2013), Interview 04, 20 November, Sydney.
- White, A. (2014), 'Five reasons for the new senate to keep the carbon price', *The Guardian*, 10 July.
- Widmaier, W. & Grube, D. (2015), 'Prime Ministers and policy rhetoric: The 'credibility gaps' of Woodrow Wilson and Kevin Rudd in the League of Nations and climate change debates', *Political Studies*, 63(2): 336-352.
- Wilder, M. (2013), Interview 20, 18 December, Sydney.
- Wilkenfeld, G., Hamilton, C. & Saddler, H. (1995), *Australia's Greenhouse Strategy: Can the Future be Rescued?*, Canberra: The Australia Institute.
- Wilkinson, M., Cubby, B. & Duxfield, F. (2009), 'Come in spinner', *Sydney Morning Herald*, 7 November.
- Wilson, J. (2011), 'Sunrise to sunset: Kevin Rudd as celebrity in Australia's post-broadcast democracy', *Celebrity Studies*, 2(1): 97-99.
- Wilson, L. (2009), 'Farmers seek level playing field for exports', *The Australian*, 14 August.
- Wilson, L. (2012a), 'Outmanoeuvred: How Combet blindsided Greens into policy backdown', *The Australian*, 30 August.
- Wilson, N. (2004), 'ALP pitch to Greens on energy - Election 2004', *The Australian*.
- Wilson, T. (2012b), 'Junk Kyoto and the carbon tax', *The Australian*, 10 December.
- Wilson, T. (2013a), 'Carbon market flaws evident', *The Australian*, 18 April.
- Wilson, T. (2013b), 'IPA responds: Property rights and the ETS', *ClimateSpectator*, 19 July.
- Wilson, T. (2013c), 'Rudd's carbon plan a threat to our sovereignty', *Daily Telegraph*, 2 July.
- Wilson, T. (2014), Interview 52, 25 March, Sydney.
- Winn, P. (2009), *Evidence to Senate Select Committee on Climate Policy: Emissions Trading and Reducing Carbon Pollution*, 21 April, Sydney: Hansard, Commonwealth of Australia.
- Wirth, T.E. & Stavins, R.N. (eds) (1988), *Project 88: Harnessing Market Forces to Protect our Environment: Initiatives for the New President: A Public Policy Study*, vol. 52, Environmental Policy Institute.
- Witte, J.M. & Streck, C. (2003), 'Introduction: Progress or peril? Partnerships and networks in global environmental governance', in J.M. Witte, C. Streck & T. Benner (eds), *The Road from Johannesburg: What Future for Partnerships in Global Environmental Governance?*, Berlin: Global Public Policy Institute.
- Woerdman, E. (2000), 'Organizing emissions trading: The barrier of domestic permit allocation', *Energy Policy*, 28(9): 613-623.
- Wong, P. (2009), Carbon Pollution Reduction Scheme: Support in managing the impact of the global recession, 4 May, Canberra, Senator Penny Wong.
- Wong, P. (2010), Indonesia and Australia announce \$30 million Sumatra Forest Carbon Partnership, 1 November 2011, Canberra, Minister for Climate Change, Energy Efficiency and Water.

- Wood, P.J. & Jotzo, F. (2011), 'Price floors for emissions trading', *Energy Policy*, 39(3): 1746-1753.
- Wood, T. & Edis, T. (2011), *The New Protectionism Under Carbon Pricing: Case Studies of LNG, Coal Mining and Steel Sectors*, Melbourne: Grattan Institute.
- Woods, C. (2013), Interview 07, 25 November, Melbourne.
- Woods, G. (2014), Interview 46, 13 March, Newcastle.
- World Bank (2010), *Integrated Safeguards Data Sheet Concept Stage*, AC5770, Indonesia Sustainable Development (EASIS) Unit, World Bank.
- World Bank (2012), *Electricity production from coal sources (% of total)*, viewed 11 January 2015 <<http://data.worldbank.org/indicator/EG.ELC.COAL.ZS>>.
- World Bank (2013), *Mapping Carbon Pricing Initiatives: Developments and Prospects*, Washington: Ecofys for World Bank.
- World Bank (2014), *State and Trends of Carbon Pricing*, Washington: Ecofys for World Bank.
- Wright, C. & Nyberg, D. (2014), 'Creative self-destruction: Corporate responses to climate change as political myths', *Environmental Politics*, 23(2): 205-223.
- Wright, C., Nyberg, D. & Grant, D. (2012), "'Hippies on the third floor": Climate change, narrative identity and the micro-politics of corporate environmentalism', *Organization studies*, 33(11): 1451-1475.
- Wright, G. (2013), *Reforming the National Electricity Objective to Improve Environmental Outcomes in the National Electricity Market*, Sydney: Total Environment Centre.
- Wright, M. & Hearps, P. (2010), *Australian Sustainable Energy: Zero Carbon Australia Stationary Energy Plan*, Melbourne: The University of Melbourne Energy Research Institute and Beyond Zero Emissions.
- Yan, K. (2011), *WikiLeak cable highlights high level CDM scam in India*, International Rivers, 20 September, viewed 11 November 2013 <<http://www.internationalrivers.org/blogs/246/wikileaks-cable-highlights-high-level-cdm-scam-in-india>>.
- Yandle, B. (1998), *Bootleggers, Baptists, and Global Warming*, PERC Policy Series No. PS-14, Bozeman: Property and Environment Research Center.
- Yeates, C. (2010), 'Reluctant Forrest backs price on carbon', *Sydney Morning Herald*, 22 September.
- Yeates, C. & Morton, A. (2011), 'Industry warns Gillard on carbon price', *Sydney Morning Herald*, 11 February.
- York, R. & Rosa, E.A. (2003), 'Key challenges to ecological modernization theory', *Organization & Environment*, 16(3): 273-288.
- YPD (2011), Letter: To the Australian Delegation to Central Kalimantan February 2011, Community Concerns with the KFCP, Yayasan Petak Danum Kalimantan Tengah.
- Yudhoyono, S.B. & Rudd, K. (2008), *Australia – Indonesia Joint Leaders' Statement on Climate Change, with the President of the Republic of Indonesia*, Jakarta Canberra: Office of the Prime Minister.
- Zapfel, P. & Vainio, M. (2002), *Pathways to European Greenhouse Gas Emissions Trading: History and Misconceptions*, Fondazione Eni Enrico Mattei Note di Lavoro Series, October, Milan: European Commission, DG Environment.