

Local Responses to Climate Change: using the diverse economy to meet energy needs

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This thesis is submitted to the University of Newcastle in partial fulfilment of the requirements of the degree of Bachelor of Development Studies with Honours.

The work embodied in this thesis is the result of original research and has not been submitted previously for a degree to this or any other University.

Signed

Date

Abstract

This Honours thesis develops understandings of local level responses to climate change. It does this through applying a diverse economies framework to analyse how local groups are using renewable energy initiatives to respond to climate change. By taking a closer look at a variety of local level responses to climate change, from community climate action groups to small renewable energy businesses, this thesis reveals how ethical commitments and ideas about social and political change guide and shape these initiatives. It also explores the contribution of diverse economic practices to meeting initiative's goals. This research demonstrates that local level actors are increasingly important in both defining and delivering climate governance, both through their local projects and through their interaction with other scales of climate governance (such as the national and international). A case study analysis of seven local initiatives throughout NSW and VIC provides the foundation for this qualitative research, involving document analysis and semi-structured interviews. An understanding of knowledge as performative underpins this research and my effort to increase the visibility and viability of local level and diverse economic responses within the climate governance landscape.

Dedication

This work is dedicated to brave people everywhere who are living and creating new realities, thinking and feeling their way through the transitions that will make our world a better place.

Particularly **Pete & Naomi**, two of the most incredible, capable and loving climate activists I know. It is people like you who truly bring hope and joy to a world amidst huge changes. Here's to many future journeys!

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Abbreviations

CAN	Climate Action Newcastle
CANA	Climate Action Network Australia
CPRS	Carbon Pollution Reduction Scheme
FE	Future Energy
HEP	Hepburn Community Wind Cooperative
MRET	Mandatory Renewable Energy Target
NESS	New England Sustainability Strategy
NESSiE	New England Sustainability Strategy Executive
RECs	Renewable Energy Certificates
RPC	Rainbow Power Company
SEC	Sydney Energy Cooperative
SLA	Sustainable Living Armidale
SNERPy	Solar New England Region Project
UNFCCC	United Nations Framework Convention on Climate Change
UNSW	University of New South Wales

Chapter 1

Introduction

Climate change poses enormous challenges to humanity and the future vitality of our planet. After decades of global debate, we are now at a stage where the “broad consensus of scientists and environmentalists is that carbon emissions must be reduced, radically and rapidly” (Douglas 2007: 548; see also IPCC 2007, Stern 2006, Garnaut 2008). As yet, however, there remains “considerable political and scientific debate about what form that action should take and who should shoulder the responsibility for acting” (Davies 2005: 22). Many people claim a fundamental shift in values and social and economic relations is necessary to truly address the root causes of climate change (such as Transition Towns movements; Hamilton 2007; Trainer (2007) etc.). Others claim there is also a growing awareness that any global response to climate change must involve local action, since ‘the human activities that can lead to climate change are very local’” (Wilbanks and Kates 1999 in Bulkeley and Betsill 2003: 32).

At the time of writing, the debate over how the Australian government will act on climate change was being hotly contested, with proposals for legislation constantly changing. The major components of the federal government’s proposed climate policy framework are the Carbon Pollution Reduction Scheme (CPRS), currently still being debated, and the Mandatory Renewable Energy Target (MRET), passed in August this year. Debates over the proposed CPRS (also referred to as the Emissions Trading Scheme (ETS)), are both dividing the federal opposition internally as well as threatening a double dissolution election if the passage of the legislation is blocked a second time. The focus of the proposed CPRS is on creating tradeable carbon permits and regulating industry

greenhouse gas emissions through the allocation, auction and trading of these permits. The focus of the debates has centred on how to best protect industries, jobs and households from the rising costs of carbon pollution (e.g. reflected in increased electricity prices) if the legislation goes through (Hunt in Fullerton 2009; Maiden 2009). Amendments to the policy by the opposition include “greater compensation for big greenhouse-emitting industries”, that food processing, agriculture and fugitive emissions from coal mining be excluded and that compensation should be given to coal-fired power stations in order to limit the rise in electricity price (Kirk 2009: 1; Maiden 209: 1).

As the environmental efficacy of the proposed policy is increasingly weakened by various political and industry lobbies, Greens Senator Christine Milne claims it does not offer the potential to adequately meet the climate challenge, accusing the government (and the opposition) of acting to maintain the social and political “status quo” (in Fullerton 2009: 4). Don Henry from the Australian Conservation Foundation is disappointed, believing that the legislation will “shovel out huge amounts of additional assistance to big polluters” and that it risks “Australia becoming a sheltered workshop for polluters” (in Kirk 2009: 2). As we get nearer to the United Nations climate-summit in Copenhagen in December (following on from the Bali and Kyoto summits), these government debates increasingly occupy media attention, reinforcing the view that national governments, international agreements and implicated industries are the key actors in responding to climate change.

At present, mainstream climate governance approaches are focused on a single layer of economy and society, that is, national governments participating in international level climate agreements (such as the Kyoto Protocol) and implementing policy to regulate

industry through capitalist market-based mechanisms. The purpose of this research is to explore some of the other options available in our attempts to govern and effectively respond to the challenges of climate change. In taking a second look at the climate response landscape we see a multitude of actors at many scales, from local to international, involved in a myriad of social, economic, policy and community activities aimed at addressing climate change. This thesis focuses on the role of local level actors in the governance of climate change, specifically looking at initiatives with a renewable energy focus.

One crucial element of responding to climate change is in transforming energy supply systems. Electricity generation currently contributes approximately 35% of Australia's carbon dioxide emissions and is almost completely (90%) sourced from large-scale coal fired power stations (Turton, 2004). Australia has lagged in its uptake of renewable energy compared with other 'developed' countries (Turton, 2004). As Walker et al. (2007: 64) comment:

One of the major challenges for climate change governance is to shift, and ultimately transform, established energy supply systems based around the use of fossil fuels towards more sustainable and renewable forms. There are many complexities involved, choices available and strategic decisions needed in conceiving how such a shift and transformation can and should be achieved.

The innovation and motivation present in local climate response initiatives offers insights into the potential of these complex opportunities. Investigating such local level climate response initiatives is the basis of this research.

In order to successfully mitigate and adapt to the challenges of climate change Hopkins (2008: 14-15) issues a call for the following prerequisite:

We need new stories that paint new possibilities, that reposition where we see ourselves in relation to the world around us, that entice us to view the changes ahead with anticipation of the possibilities they hold.

Through the investigation of seven local case studies this research aspires to meet Hopkins' call: to paint new stories of possibility across the climate response landscape. In doing so, I hope to increase the visibility and viability of local level and diverse economic responses to climate change. As such, the central aim and objectives of this research are:

Aim

To explore how local initiatives use diverse economic practices to respond to climate change while also acting on a range of other environmental, social and economic ethical commitments.

Objectives

1. To develop understandings of the contribution of **local level responses** to climate change governance.
2. To reveal how local initiatives use the **diverse economy** to develop what they see as an effective and ethical response to climate change.
3. To identify the range of environmental, social and economic **ethical commitments** that are interwoven with local responses to climate change.
4. To use **research methods** that are of mutual benefit to researcher and case study groups.

Through the investigation of these objectives I hope to expand the terrain of legitimate climate responses, gaining a space of invigorated diversity in which we can scope our options for future action.

Chapter 2

Literature Review

Introduction

There is an emerging body of literature devoted to analysing the ways in which climate change is being governed across the globe. Despite the diversity of climate responses that exist across many scales, some types of responses are currently more visible and more widely endorsed than others. The focus of climate governance literature has largely been on the role of nation-state and industry actors and their participation and influence in international level agreements. In this literature, international level agreements are understood as the means through which nation-states seek to control and regulate climate change, its causes and impacts (Okereke et al. 2009). There are, however a multitude of other approaches to climate governance, for (as may seem obvious) different understandings of the nature and causes of climate change result in different concepts of what constitutes appropriate and effective solutions to the problem (Bulkeley and Moser, 2007). Such differences are being played out across the global terrain, resulting in a diverse and fascinating field of study with the potential to expand concepts of climate governance.

In this thesis I am interested in responses to climate change that fall outside of the prevailing approaches around international level agreements. In order to understand these other responses I draw on two bodies of literature. The first is literature that specifically addresses climate change responses and inquires into the role of local responses in a field that seems to privilege only one set of actors (national and international governments and industry). The second, the diverse economies literature, is not specifically concerned

with climate change responses, but as I argue later in this chapter, and in this thesis, has the potential to help inform new climate change responses. The diverse economy literature provides the lens through which the diversity of local climate change responses will be analysed and their opportunities explored. Both bodies of literature are examined in this chapter.

2.1 Current approaches to climate governance

There are two broad elements that characterise current mainstream approaches to climate governance: first, national and international governance arrangements follow well-established patterns; and second, these focus on neoliberal economic policy approaches.

First, well-established patterns of global governance within international relations centre on the development of international agreements as the mechanism through which nation-states can collectively govern an identified problem. The international climate governance framework is facilitated through the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto protocol. Its proponents hope that the “explicit and implicit principles, rules, norms and procedures” enshrined in this international level agreement will position nation-states to act on climate change (Okereke et al. 2009: 58). These international climate agreements have dominated government discourse, academic literature and the minds of many members of the public as being the crucial, if not the only, response required to address to climate change (Okereke et al. 2009). They form the mainstream climate governance framework that Okereke et al. (2009) refer to as the “International climate regime”.

Bulkeley and Moser (2007: 4) explain how issues of environmental governance are framed within the traditional international relations framework:

Historically, the framework for the organisation of political life within which global environmental politics takes place has been considered as the nested tiers of global governance, nation-states and (sometimes) regional and local governments. This in turn has led to an historical focus on international negotiations and national implementation.

In this approach, the main actors in climate governance, like environmental governance generally, are nation-states (seen as homogenous and uncontested entities) and industry (the only other crucial actors). Within this mainstream context, global governance of issues such as climate change is understood as the "collective actions to establish international institutions and norms to cope with the causes and consequences of adverse supranational, transnational, or national problems" (Raimo Vayrynen in Jagers and Striiple 2003: 387).

The second element of current mainstream approaches to climate governance is that they are increasingly characterised by neoliberal economic policy approaches. Bailey (2007) points to the increasing alignment of environmental protection policies (e.g. climate policy) at national and international agreement levels under the banner of neoliberalism. The reverberations of this can be seen in the fact that "although states are not responding in precisely the same way to common problems, they are proceeding along broadly similar routes" (Bailey 2007: 533). These 'routes' are distinguished by a general trend toward the implementation of capitalist market based response mechanisms, reflective of the neoliberal inclination to re-write national environmental policy priorities to instill "cost-efficiency, competitiveness, and the prioritisation of self- or co-steering market processes ... as core elements of effective environmental regulation" (Bailey, 2007: 530).

The aim is to act on climate change whilst maintaining the global economic, political and social status quo, usually defined in terms of gross domestic product and economic growth (Bailey 2007: 530-31; Okereke 2008: 121-120).

Within a neoliberal policy context, the role of national government is to provide the conditions in which the free market will settle into the most efficient means of overcoming the issue, with industry and big business as the major enactors of policies. Here, the role of individual and local-level actors participating in climate governance is restricted to being consumers within the regulated market. The economic and policy tool-box of such neoliberal approaches includes "deregulation, commercialisation, attempted commodification and re-regulation of natural resource management via privatisation and trade agreements", visible in the form of tradable pollution permits, carbon trading, carbon offsetting, etc. (Bailey, 2007: 531; also see Liverman 2004: 734). Okereke (2008: 121) supports these claims of neoliberal influence over international environmental policy, noting that the core policies advocated by the United Nations Framework Convention on Climate Change (UNFCCC) "remain rooted in [capitalist] market-based mechanisms".

This trend towards climate governance frameworks driven by international agreements, nation-states and industry and underpinned by the neoliberal emphasis on capitalist market mechanisms can be seen in the Australian government's proposed climate change policy framework. Australia's ratification of the Kyoto Protocol in December 2007 has prompted the government to debate and develop a national climate change policy framework. As mentioned in the introduction, the major components of this policy framework are the Carbon Pollution Reduction Scheme (CPRS), currently still in draft

form, and the Mandatory Renewable Energy Target (MRET), passed in August this year (Department of Climate Change 2009 a; Department of Climate Change 2009 b). At the time of writing the government was still debating the CPRS; hopefully deciding the policy in time to take it to the United Nations climate-summit in Copenhagen in December 2009.

The CPRS is Australia's version of an Emissions Trading Scheme (ETS)¹, which involves creating a market for carbon with the aim of providing "incentives to reduce green house gases by setting a carbon price" (Department of Climate Change 2009 a: 2). By putting a price on carbon emissions, capping the amount of carbon emissions allowed via limiting the number of carbon emission permits and making the permits tradeable in free markets, it is hoped that the market will help to perform the task of regulating carbon emissions. Actors within this newly created market are polluting industries and businesses; once again, individual and small-scale actors are left to participate only as consumers at the end of the line.

The government hopes that the CPRS will drive the deployment of renewable energy in Australia, as the increased cost of fossil-fuel energy generation will act as a "price signal ... intended to transform the economy by alerting investment and purchase decisions away from the worst polluting energy sources towards cleaner energy sources" (Hodder (2008: 1). According to the government the market-based CPRS is "*the* economically responsible way to tackle climate change" (Department of Climate Change 2009 a: 2, emphasis added). Many people have challenged the proposed CPRS legislation's ability

¹ Establishing ETSs are a common element within neoliberal economic policy approaches to climate governance and have already been established by the European Union and the United States (Diesendorf 2009:99-100). The Kyoto Protocol includes an international emissions trading scheme (Bailey 2007: 530).

to effectively address climate change on a number of accounts². For example, the effectiveness of the CPRS is weakened to an unknown, and possibly “crippling”, extent by ‘grandfathering’, whereby free permits are granted to emissions-intensive and trade-exposed industries, such as aluminium production and coal mining and exports (Hodder 2008: 2). Another critique is that “the market, by its nature, can’t provide long-term planning” and, hence, the cap and trade approach of an emissions trading scheme might foster but cannot plan for an effective transition to renewable energy or to energy efficiency (Diesendorf 2009: 53). The Australian Conservation Foundation refers to the CPRS, with its free permits and subsidies, as a “sheltered workshop” for polluting industries (in Kirk 2009: 2). The other major component of the government’s proposed climate strategy, the Mandatory Renewable Energy Target, is also based on market mechanisms through the creation of saleable Renewable Energy Certificates (RECs). RECs are the incoming policy mechanism replacing the former \$8,000 solar rebate available to households under the Solar Homes and Communities program (these policies are explored later in the thesis, see p. 61).

The core elements of this draft policy confirm Bailey’s (2007) and Okereke’s (2008) analysis that climate governance approaches are relying heavily on capitalist market mechanisms thereby moving away from a command-and-control³ environmental regulation approach to one informed by neoliberal trends. They are all elements of mainstream economic responses that further confirm Bailey’s (2007) analysis that approaches to climate governance are based on commitments to a neoliberal, capitalist

² For a range of critiques on the proposed Carbon Pollution Reduction Scheme see Hodder 2008: 2, Diesendorf 2009: 99-100; Spratt 2009: 2; Spratt and Lawson 2008: 55.

³ A command-and-control approach to environmental regulation involves “setting environmental standards (e.g. for air quality or water quality) enforced via legislation without the aid of market-based incentives” (Turner, Pearce and Bateman 1994: 144).

economy-centered policy direction. That is, the climate response approach at a national and international level is being governed by a commonly held commitment to certain (neoliberal) policy styles.

2.2 Criticisms of current approaches to climate governance

Most academic research on the governance of climate change has by-passed the role of non-state actors and rather focused on the establishment of the international climate regime and its implementation (Okereke et al. 2009). Recently critiques have emerged around some of the fundamental assumptions of the international climate regime, one of the most significant being that the pre-eminence of the nation-state obscures the role and potential of non-state actors in governing climate change (Jagers and Strippel 2003; Bulkeley and Moser 2007; Okereke et al. 2009)⁴. These critiques are bolstered by a budding literature on the role and potential of non-state and local level actors within the climate governance context⁵.

Critiquing the pre-eminent nature of the nation-state

Critiques of the pre-eminence of the nation-state within the international climate regime start by noting that climate governance in reality is a diverse and contested terrain in

⁴ Another common critique, coming from both literature and the general public, is that action at the international climate regime level is slow and cumbersome, having taken 10 years for the Kyoto Protocol to be ratified, without yet implementing the deep carbon emissions cuts needed to curb climate change. Further, there is widespread critique that international climate governance policies are too shallow and act to maintain the status quo rather than addressing the root causes of the climate problem (Okereke 2008; Okereke et al. 2009). Such critiques also lead some, such as Jagers and Strippel (2003: 395), to advocate that: “Given the current stalemate of the intergovernmental climate negotiations, the need for alternate forms of climate governance is dire”. Although much has changed since the time this was written, the sentiment remains and is evident in the work of other theorists (Bulkeley and Moser 2007; Okereke et al. 2009). Other critiques of the international climate regime can be found, but these tend to focus more on the specific elements and predicted effectiveness of the regime, such as specific greenhouse gas emission targets, nation-state participation and specific mechanisms for greenhouse gas abatement (Diesendorf 2009; Hamilton 2007; Hodder 2008; Spratt & Lawson 2008).

⁵ For a range of examples see the special edition of *Global Environmental Politics*, “Responding to Climate Change”, issue 7.2 (2007).

which a number of actors at all scales simultaneously contribute. Okereke et al. (2009: 58) see that “an explosion of parallel initiatives” by non-state and local level actors is effectively “broadening climate governance ‘beyond’ the realms of the international climate regime”. Instead of the clearly distinguishable “nested tiers” of global, national and regional governance advocated within traditional international relations theory (mentioned above), Bulkeley and Moser (2007: 2) suggest that the realities of climate governance are breaking down “the assumption that one geographical-scale of decision-making can be neatly separated from others”. Similarly, Jagers and Striiple (2003: 386) see that “the political map of the last four centuries is no longer adequate” in understanding climate governance, for “instead of one level being the most important point of reference, there is now a set of overlapping authorities”. These other authorities include non-state and local actors such as non-government organisations and epistemic communities (Jagers and Striiple 2003: 385). Within this changeable and negotiated understanding of international politics, Bulkeley and Moser (2007) and Okereke et al. (2009) suggest that climate governance can more accurately be conceptualised as a web in which state and non-state actors exert influence at multiple scales at once. Within this web state and non-state actors relate to each other in many ways from cooperative to refractory to largely independent.

Non-state actor participation in climate governance generates perspectives on power and authority that are “radically different” to those underpinning the international climate regime (Okereke et. al. 2009: 72). The pre-eminence of nation-states presumes that power and authority reside singularly with the sovereign. Okereke et al. (2009: 61) call for an alternative framing of power within concepts of climate governance, so as to “open up the taken-for-granted ground concerning who and what is involved in

“governance””. Through their various climate responses, non-state and local actors are demonstrating the multiple ways in which actors within and outside the international climate regime engage in the web of climate governance. As such, they open the space for power and authority to be seen as distributed amongst actors, residing outside of the bounds of the nation-state. These concepts of power enable a critical exploration of how non-state and local actors “deploy strategic capacities, create alternative ‘mentalities’ of rule, and render the issue of climate change ‘practical’” in building their own means of climate governance (Okereke et. al. 2009: 73).

Recognising the role of non-state and local level actors

In their paper “Governance and Social Action Beyond Kyoto” Bulkeley and Moser (2007: 8-9) convincingly argue that the rise of many climate-related non-state actors (non-government organisations, alternative businesses, community groups, etc.) across different scales and networks is “having an impact on how climate protection is being conceptualised, framed and debated within policy circles and in the interested public at large”. These non-state actors, whose approaches and initiatives are aimed at addressing and mitigating climate change, are increasingly visible and influential in the realm of climate response possibilities. As such, they are effectively broadening concepts of what constitutes climate governance and who the actors are.

Moving beyond the international climate regime and its stubborn commitment to nation states implementing capitalist market policy instruments leads us to explore the role of non-state actors in changing the ways that climate change governance is conceptualised and enacted. Okereke et al. (2009: 58) describe the potential impact of such actors, identifying that they:

- Have a "material impact on the performance of the [international climate] regime as they offer a means through which nation-states might achieve international goals". For example, a nation-state might commit to a 20% carbon emission reduction by 2020 as part of their involvement with the Kyoto Protocol. To achieve this, however, a host of state and non-state actors might be involved in successfully implementing the domestic policies set to meet this target.
- May "achieve emissions reductions independently ... based on their own principles, norms, rules and procedures". For example, a non-state actor might voluntarily change their consumption behavior, thereby reducing their carbon footprint.

Through the emerging critiques of and alternatives to the international climate regime possibilities for a broader definition of climate governance are emerging. In such a context, Jagers and Striiple (2003: 385) offer that climate governance comes to encompass "all purposeful mechanisms and measures aimed at steering social systems towards preventing, mitigating, or adapting to the risks posed by climate change".

Beyond this, non-state actors involved in climate change responses also offer vast potential as sites of climate policy and economic innovation as a result of very different framings of the problem and, therefore, very different emergent solutions. Okereke et al. (2009: 73) explain that within the dominant international climate regime "what is and is not considered an acceptable response to climate change is in part determined by particular hegemonies ... concerning the nature of the climate change problem". For Bulkeley and Moser (2007: 5) these 'hegemonies' stem from "an historical focus on international negotiations and national implementation" as the means to environmental governance, which in turn has led to "attention being placed on only part of the 'green house gas emissions' problem, primarily focused on large-scale emitters and the use of economic instruments and technical fixes in response". This understanding marginalises the role that other aspects such as consumer culture, land use and land clearing practices

and transportation norms play in causing climate change, thereby narrowing the scope of the response. Stepping beyond the confines of nation-state responses finds diverse framings of the root causes of and possible solutions to climate change as will be demonstrated through the case study analysis to follow.

2.3 Examples of local level responses to climate change

Building on the critiques of the national and international focus of mainstream approaches, it is the local scale of non-state action that is of particular interest in this Honours research. The local scale is a site of exponential growth in climate response initiatives (see Hopkins 2008; Climate Movement 2008) drawing on the vast untapped resource and potential of everyday people's desire and will to act on issues of climate change. Griffiths (2009: 41) describes the Transition Towns movement:

Many people feel that individual action on climate change is too trivial to be effective but that they are unable to influence anything at a national, government level. They find themselves paralysed between the apparent futility of the small-scale and the impotence of the large-scale. The Transition Initiative works right in the middle, at the scale of the community, where actions are significant, visible and effective.

In the absence of decisive and powerful international action on climate change and "cognizant of the big task ahead", local initiatives are emerging to fill the gap between debated international policies and their own lived realities (Bulkeley and Moser 2007: 1). Sale (1980 in Griffiths 2009: 41) explains that the local offers a scale "one can feel a degree of control over the processes of life, in which individuals become ... participants and protagonists instead of just voters and taxpayers", or consumers, as the case may be.

Within Australia there are countless types of local initiatives responding to the climate change challenge – from small renewable energy businesses to climate action groups to transition towns to renewable energy cooperatives. The rapid growth in such initiatives tells of the increasing desire within members of general public to take action on climate change. For example, the number of climate action groups in Australia has grown rapidly in the last 2 years, now numbering around 100 (Climate Movement 2008: 1). Also, from its start in 2007, the International Transition Town network has expanded exponentially with 227 official Transition initiatives from all over the world now registered; there are 24 registered Transition Towns in Australia (Transition Towns n.d.: 1).

One way the local level can play a key role in addressing climate change is by establishing renewable energy initiatives. As already highlighted in the introduction, electricity generation currently contributes approximately 35% of Australia's carbon dioxide emissions; this is almost completely (90%) sourced from large-scale coal fired power stations (Turton, 2004). Australia has lagged in its uptake of renewable energy compared with other 'developed' countries (Turton, 2004). Many people now feel there is a role for the local level to instigate this transition to a renewable energy economy.

Establishing locally owned and run renewable energy programs is not uncommon internationally, but is a new development in the toolkit of local responses to climate change in Australia. Western European countries, such as Denmark and Germany, have paved the way to showing the potential role and power of local climate response initiatives. Such ventures often take the form of cooperatives, grassroots action groups or not-for-profit associations involved in providing wind, solar and other renewable energy related services. Many of the activities of such initiatives are non-capitalist (eg.

volunteer, in-kind, cooperative) and are fundamentally different to the market-based mechanisms advocated by state and international responses. This suggests that not only can climate change responses be rethought by incorporating local level actors, but they can also be rethought by enlarging the scope of economic possibilities to cover more than just neoliberal economic policy approaches.

2.4 The diverse economy and a politics of possibility

The potential for responding to climate change using economic tools beyond those advocated by the neoliberal economic policy approach takes us into the realm of the diverse economy. The ‘diverse economy’ is a term developed by J.K. Gibson-Graham (2006 a; 2008) to portray the reality of existing diversity in current economies. The term encapsulates aspects of economy that are often rendered invisible or marginal by dominant discourses of the economy as capitalist. For example, these diverse aspects of economy include volunteer, in-kind and not for profit labour and enterprises such as cooperatives and not-for-profit groups (Gibson-Graham, 2006 a). In developing this concept, Gibson-Graham draw on and extend the work done by feminist political-economy theorists over the past 30 years, who have pushed accounts of the economy beyond paid work to also include unpaid household labour. Gibson-Graham use the analogy of an iceberg, shown in Figure 2.1, to summarise the diverse economy: the tip of the iceberg above water represents the common portrayal of economy as capitalist; what is below the water is what is encompassed within the broader concept of the diverse economy.

Figure 2.1: The diverse economy iceberg.



Source: Community Economies Collective 2001 in Gibson Graham 2006 a: 70. Drawn by Ken Byrne.

Developing an understanding of the diverse economy involves becoming familiar with:

- different⁶ kinds of economic transactions and ways of negotiating commensurability;
- different types of labor and ways of compensating it; and
- different forms of enterprise and ways of producing, appropriating, and distributing

⁶ That is, different in reference to dominant, capitalist ways of constructing these elements of economy.

surplus. (Gibson-Graham 2006 a: 60-68)

Gibson-Graham (2006 b: xiii) summarise these different forms of transactions, labour and enterprise in their diverse economies table, shown below in Table 2.1. This table template is used as tool throughout this thesis to ‘map’ the economic diversity of local climate change responses.

Table 2.1 The diverse economy table

TRANSACTIONS	LABOUR	ENTERPRISE
MARKET	WAGE	CAPITALIST
ALTERNATIVE MARKET Fair trade Alternative currencies Underground market Barter	ALTERNATIVE PAID Self-employed Reciprocal labour In-kind Work for welfare	ALTERNATIVE CAPITALIST State owned Environmentally responsible Socially responsible Non-profit
NON-MARKET Household sharing Gift giving Hunting, fishing, gathering Theft, piracy, poaching	UNPAID Housework Volunteer Self-provisioning Slave labour	NON-CAPITALIST Worker cooperatives Sole proprietorships Community enterprise Feudal Slave

Source: Adapted from Gibson-Graham 2006 b: xiii.

The importance of a diverse economy framework to the climate governance context

A diverse economy framework is fundamental to this research for two reasons: first, as a tool for enlarging the scope of economic practices and possibilities; and second, as a means of exploring the ways in which economic practices can reflect broader ethical commitments.

First, the diverse economy framework is a tool for enlarging the scope of economic practices and possibilities by opening up new ways in which people can relate to ‘the economy’ in their pursuit for effective local responses to climate change. The climate

change responses advocated by the international climate regime reflect and reinforce dominant views of economy as capitalist by promoting only very specific types of policy approaches, as explored earlier. The dominance of capitalist economics has led to a belief that economies are homogenous and markets are all-knowing and best left to “systemic self-regulation” (Gibson-Graham, 2003: 126). Closed concepts of economy have brought with them what Hindess (1977: 97-8 in Gibson-Graham 2003: 126) sees as a “reluctance to engage in economic experimentation because of its perceived futility, or for fear of repression”, which can ultimately become a “form of un-freedom, a discursive enslavement, a refusal to explore economic power as unstable and fluid”. Gibson-Graham (2008) identify their work on diverse economies as a process of ‘performing’ new realities through giving people a new language of economy with new ways of framing the way economy is thought about, engaged with and created. Through reading economic practices to maximise recognition of diversity, the diverse economy framework offers the potential for increased visibility of a multitude of economic practices as being effective in the climate response context.

Second, the diverse economy framework is not just about uncovering economic diversity for its own sake; it also shows us how diverse economic practices can reflect broader social and environmental ethical commitments. In the context of local responses to climate change, a diverse economy framework draws attention to the ways economic interactions can be tailored to address the many ethical commitments a group might have. For example, within Transition Towns initiatives, mentioned above, it is important to act on climate change and peak oil while also upholding ethical commitments to participatory decision-making, grassroots democracy and providing opportunities for civic engagement. In re-thinking the bounds of economic activities, we gain a range of

new tools that build the potential for economic activities to simultaneously address the diverse environmental, social and economic ethical commitments considered integral to an effective and ethical response to climate change. In this way economy becomes a site where “ethical decisions can be made, power can be negotiated and transformations forged” (Gibson-Graham 2006 a: 77).

The importance of these two elements offered by the diverse economy framework explored above can also be seen in other contexts also. For example, in her work “Thinking and Practicing Values: Community Enterprises in the Food Sector” Jenny Cameron (2008 a) explores the diverse economy of community enterprises in the food sector. In Table 2.2 below, Cameron (2008 a: 15) summarises the many different types of transactions, labour arrangements and enterprise structures uncovered through the lens of the diverse economy framework.

The enterprises included in Cameron’s study operate to some extent within common understandings of ‘the economy’ (see Table 2.2 row one). For example Organic Buyers Group source fruit and vegetables through mainstream wholesale markets and many enterprises have at least some paid staff. But, as Cameron (2008 a: 14) notes, “alongside these regular market and labour practices, the enterprises also use a range of other economic practices”. In terms of diverse economic transactions (see Table 2.2 column one), enterprises use Community Supported Agriculture programs (see below) and gift giving. For the remuneration of labour (see Table 2.2 column two), groups use a range of alternative arrangements, such as discounted prices and access to free produce. Many enterprises also rely heavily on volunteer labour. Enterprise structures (see Table 2.2 column three) varied from alternative capitalist businesses to very loose cooperatives with no legal structure.

An emphasis on social and environmental ethical commitments “over and above economic concerns” has led the community enterprises included in Cameron’s study to develop the unique economic practices mentioned above (Cameron 2008 a: 14). For example, the goals of the enterprises’ Community Supported Agriculture (CSA) programs are to “build strong relationships with consumers and producers” as well as to care for farmers by guaranteeing fair and steady income and to source affordable organic food (Cameron 2008 a: 18). For one enterprise, the CSA program involves organising volunteer labour to help on the farms and, thus, also helps the group achieve goals of community development and civic participation. In this way, the enterprises show the means through which “economic practices serve social and environmental goals” (Cameron 2008 a: 17).

Table 2.2: The diverse economic practices of the community enterprises

TRANSACTION	LABOUR	ENTERPRISE
<p>Market</p> <ul style="list-style-type: none"> Wholesale markets (Organic Buyers Group) 	<p>Wage</p> <ul style="list-style-type: none"> Paid workers (Beanstalk, Food Connect, Fig Tree) 	<p>Capitalist</p>
<p>Alternative Market</p> <ul style="list-style-type: none"> Community Supported Agriculture (Beanstalk, Food Connect) Community Supporting Agriculture (Imago Forest) 	<p>Alternative Paid</p> <ul style="list-style-type: none"> Discounted produce (City Cousins in Food Connect) Produce for Labour (Volunteers at Beanstalk who receive a free box in return for work; Chook Roster at Fig Tree) Work for the Dole (Fig Tree) Volunteer Cash Payment (Sustaining our Suburbs). 	<p>Alternative Capitalist</p> <ul style="list-style-type: none"> Food Connect (not for profit company) Imago Forest (social business)
<p>Non-market</p> <ul style="list-style-type: none"> Gift-giving (Fig Tree) Self-Provisioning (Sustaining our Suburbs) 	<p>Unpaid</p> <ul style="list-style-type: none"> Volunteer (Food for Sydney; Organic Buyers Group; Fig Tree, Beanstalk,) 	<p>Non-Capitalist</p> <ul style="list-style-type: none"> Fig Tree Community Garden (Unincorporated Association) The Beanstalk Organic Food & Organic Buyers Group (Loose cooperatives with no legal structure)

Source: Cameron 2008 a: 15.

As Cameron's work suggests, many community-based groups navigate available economic possibilities to develop means and methods that fit with their ethics and goals. Examples such as those described by Cameron affirm Gibson-Graham's claim that it is increasingly apparent that "competitive individualism is not the only ethical principle involved" and within a "growing number of intentional and unintentional economies variously enacted ethics of social, cultural and environmental sustainability are actively shaping transactions and performances" (Gibson-Graham, 2003: 126).

Conclusion

This research extends the diverse economy framework to the climate change response context, a realm currently dominated by capitalist market responses. In doing so I hope to contribute to an opening of climate responses to the possibilities of economic difference and the ensued potential for policy innovation. I also wish to proliferate difference within the climate change response and governance landscape through excavating the stories of diverse local actors: their ethical commitments, structures, projects and economic approaches. In revealing this diversity it is hoped that this project will contribute to enabling the local level through opening up an awareness of a broader range of opportunities for climate responses in which economy is seen as a tool rather than an unmalleable structure. This is not a project about anti-capitalism or even non-capitalism, nor is it an attempt to claim that the national and international scales of climate governance are not needed or not effective. This research is simply aspires to demonstrate that there is a wider range of climate governance options than those embodied in the international climate regime and its reliance on dominant concepts of economy as capitalist as the reference point informing climate governance.

Chapter 3

Methodology

Introduction

As introduced in the introduction and the previous chapter, the central aim of this research is to explore how local initiatives use diverse economic practices to respond to climate change while also acting on a range of other environmental, social and economic principles. This chapter outlines the means through which this aim will be explored and how the material gathered was analysed. The methodological foundations of this thesis are grounded in the work of J.K. Gibson-Graham (2003; 2006 a; 2006 b; 2008) and the epistemological tools they have developed in their exploration of diverse economies. These epistemological tools – weak theory, performativity of knowledge and reading for difference – will be introduced here and related to my own research practice. The methods employed in this research are entirely qualitative, reflecting the desire not to find hard, fast answers, but rather offer new stories and possibilities within the climate response context: those softly spoken by local initiatives experimenting with diverse economic practices.

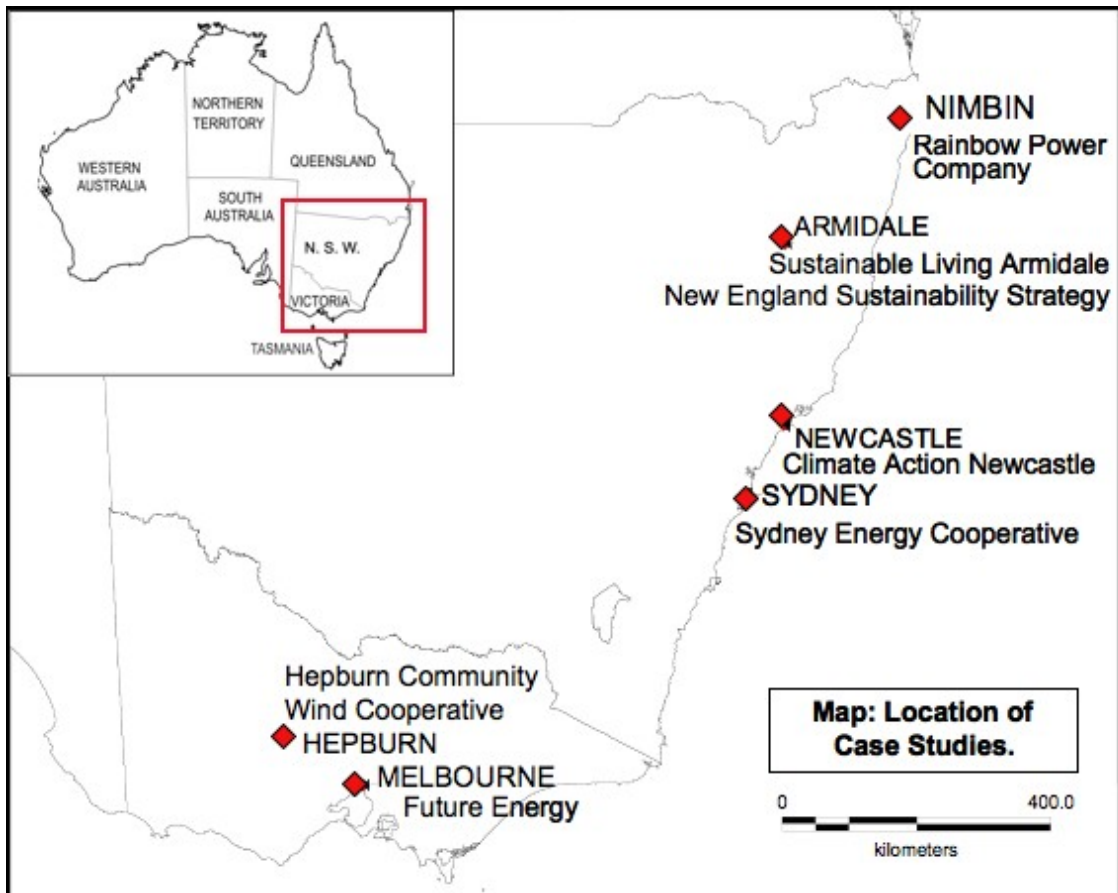
3.1 Research design

An approach based around case studies was chosen for its ability to offer detailed familiarity with groups and their stories. Qualitative methods were chosen to explore case studies, as this research is most interested in what people think, what groups' ethical motivations are and how they relate to and perform climate change governance; I felt this could be best achieved through semi-structured group interviews with each case study. Through contact with the case studies I was able to access first hand information to then

analyse within the context of the research objectives and the two main bodies of literature (as explored in the Literature Review chapter). This research design gained ethics approval from the University of Newcastle Human Research Ethics Committee, approval number H-2009-0134.

The five renewable energy initiatives originally selected and approached as case studies for this research, were chosen to represent a diversity of approaches and sizes of operation. The initiatives were also selected to be within NSW and VIC due to the time and resource constraints associated with this Honours project (see Map 3.1 below). Of these five, one declined the invitation to participate because they have a policy of not participating in research. A further three were added as I became aware of their existence through contact with the original five initiatives. These three were approached because of their potential to diversify the case study base, as they are fundamentally different in structure and purpose to any of the original case study groups. It was recognised that the thesis, with its objective of applying a diverse economy approach to a climate change context, could be enriched through engaging local climate-motivated companies, as well as local citizens groups. All seven participating case studies identify with being local in some way, though definitions of 'local' do vary. For the purposes of this research 'local' is understood as being contained within a certain, defined geographic region. What and how big this region is exactly is left to each case study to define. For some it is a local government area or a single town and for others it is more a conceptual and ethical commitment underlying their approach to the work they do. These ideas are further explored in the next chapter.

Map 3.1: Location of case studies throughout NSW and VIC.



The seven local climate initiatives that participated in this research were:

- The Rainbow Power Company (RPC);
- Sustainable Living Armidale (SLA);
- The New England Sustainability Strategy (NESS);
- Climate Action Newcastle (CAN);
- The Sydney Energy Cooperative (SEC);
- Hepburn Community Wind Cooperative (HEP); and
- Future Energy (FE).

The location of each group can be seen in Map 3.1 above. These case studies provided ample material for comparisons to be made and a diverse economy context applied. They also provided significant material with which to analyse the distinctive role of the local level within the many potential scales of climate change responses.

The process for achieving the aims and objectives of this project involved three major research components:

Analysis of Documents

This research component was designed to provide detailed background information on each of the initiatives and their respective structures, projects and founding principles and ethics. It involved analysis of materials produced by each of the groups, such as websites, brochures and constitutions (See Table 3.1 below for a summary of the documents analysed). Documents were sourced from publicly accessible material (e.g. on websites) and through the Contact Person for the case study group (see below). Where forwarded by the case study or its Contact Person, media articles were also analysed. Often, participants in the semi-structured group interviews brought additional documents to my attention; these were also analysed.

Contact Person Interview

This element of the research built upon the document analysis and enabled the student researcher to clarify information on the case study group prior to or after the semi-structured group interview process. It was originally conceived that a person would be nominated to be the Contact Person by a Senior Person (e.g. director, board member) from the case study group (see Appendix 1: Information Statement and Consent Form for Organisations). In reality, the Contact Person was always a Senior Person, who usually also agreed to participate in the semi-structured group interview (see below).

It was originally planned that the Contact Person would participate in up to two 30-minute face-to-face or telephone interviews either prior to or after the group interview. This did not happen. Rather, I sought clarification on issues by emailing the Contact Person or asking questions during the semi-structured group interview. The Contact Person also assisted in contacting potential participants and organising the time and location for the semi-structured group interview (see Appendix 2: Information Statement and Consent Form for Individuals).

Semi-structured group interviews

The third and most important research activity involved interviewing between one and four Key Organisers⁷ (e.g. senior persons, board members, directors) and between one and four General Members from each case study. Depending on the size of the case study and participant interest, interviews were either conducted as individual or group interviews. In total there were 4 individual interviews and 4 group interviews (ranging in size from 2 to 3) (see Table 3.1 for a summary of case study participation). Interviews ran from between 45 minutes and one and a half hours (see Table 3.1). The interviews were semi-structured and to a large extent interview participants led the discussion. There were certain themes that I needed to cover in order to achieve the research objectives, but keeping these themes in mind, I mostly let people talk to what they felt was most important. To prompt discussion I asked questions such as:

- What were some of the founding motivations of the group?
- How do you see your group fitting within broader action on Climate Change?
- What do you see the role of local responses to be?

⁷ The term ‘Key Organiser’ is to refer to those senior persons, board members, directors, etc. who participated in this research. This does not mean that they are the only key organisers involved in the case study initiatives.

See Appendix 3: Semi-structured Interview Indicative Questions for more detail.

It was hoped that interviewing the two cohorts (Key Organisers and General Members) from each case study would provide a depth of insights into the ethics, motivations, perceptions and meanings surrounding each initiative and allow for comparisons to be made both within and between case studies. However, interviewing two cohorts only occurred with one case study (see Table 3.1). This was partly because organising two separate interview cohorts and times for each case study was a logistical challenge, as well as being inappropriate to the structure of some of the initiatives (e.g. the businesses). The depth of understanding gained from in-depth semi-structured interviews that did occur, however, provided sufficient data for the purposes of this research, as well as simplifying the process for the researcher and the case study groups.

Table 3.1: Summary of case study participation and information sources.

CASE STUDY	NUMBER & TYPE OF INTERVIEW PARTICIPANTS	LENGTH OF INTERVIEW	DOCUMENTS ANALYSED
Climate Action Newcastle (CAN)	2 Key Organisers; 2 General Members.	One hour; 45 minutes.	Website, Information sheets, media articles.
Future Energy (FE)	1 Key Organiser.	One hour and 10 minutes.	Website.
Hepburn Community Wind Coop (HEP)	3 Key Organisers.	One hour and 15 minutes.	Website, constitution, published articles.
New England Sustainable Strategy (NESS)	1 Key Organiser.	One hour.	Website, annual report, media articles.
Rainbow Power Company (RPC)	1 Key Organiser (Telephone interview).	45 minutes.	Website, self-published book.
Sustainable Living Armidale (SLA)	3 Key Organisers.	One hour and 30 minutes.	Website, media articles, information leaflets.
Sydney Energy Coop (SEC)	1 Key Organiser.	55 minutes.	Website.

The findings of the research were analysed within a diverse economy framework, as developed in the works of J.K. Gibson-Graham (2003; 2006 a; 2006 b; 2008) and Jenny Cameron (2008 a; 2008 b; 2009). This framework not only provides an innovative way of conceptualising economic practice and the inherent diversity therein, it has also developed a unique methodological strategy for analysing data. This strategy centres on the concepts of the performativity of knowledge, weak theory and reading for difference. These elements of Gibson-Graham and Cameron's work have informed both what I have chosen to study and how I have collected and analysed data.

3.2 Methodological and analytical framework

Gibson-Graham (2003; 2006 a; 2006 b; 2008) position their recent work on diverse economies at the intersection of feminist and post-structuralist frameworks. The discussion that follows highlights how Gibson-Graham's unique methodological approach, which centres on the concepts of the performativity of knowledge, weak theory and reading for difference, applies feminist and poststructuralist epistemologies to research practice. Although these methodological concepts are not entirely new to Human Geography, Gibson-Graham extend and develop them to produce an innovative and creative approach to research and knowledge. This discussion also highlights the ways in which these concepts have informed the methodological and analytical framework for this thesis.

Performativity of Knowledge

Concepts of the 'performativity of knowledge' are deeply rooted in the post-structuralist principle that reality is constructed through discourse and, therefore, that reality can be changed through the production of new discourses (Gibson-Graham 2008: 615). Use of

‘performativity’ in this way stems from the work of J.L. Austin, who highlighted language as constitutive rather than simply descriptive of reality (Watt et al. 2008). In the most basic sense, knowledge is performative in that the process of devoting academic attention to hidden and alternative realities results in the creation of new areas of study, rendering these realities “visible as potential objects of policy and politics” (Gibson-Graham 2008: 620). Conversely, academic attention to supposed structural powers can equally contribute to reinforcing these powers. Cameron (2008 b: 7) explains the distinctive focus of a performativity perspective:

In place of knowledge as a practice of establishing truth, knowledge becomes a practice of performing the world that we live in, and perhaps more importantly of performing the world that we *might* live in.

The practice of a performativity of knowledge epistemology comes from a space of political possibility and a refusal to simply study the dominant structural forces at play in the world; this concept is closely linked with weak theory and reading for difference (see below) (Gibson-Graham 2008: 615). In Gibson-Graham’s case, this means moving away from analyses of an unfolding neo-liberal capitalist world order and instead focusing on opening a space to see the diverse realities currently present in economic practices. In the case of my thesis, this means focusing on the role that local level responses and diverse economic practices can play in the governance of climate change (rather than focusing on the international regime that characterises current approaches to climate governance).

The notion of knowledge performativity as developed by Gibson-Graham also draws on the feminist stance of research as praxis. In this context, research is recognised as action that has transformative potential, where the aim is to change the world, not just study it

(Cook and Fonow 1990: 89). As Stanley explains, research as praxis involves "a continuing shared feminist commitment to a political position in which 'knowledge' is not simply 'knowledge what' but also 'knowledge for'" (Stanley 1990: 15). Embracing a performative orientation to knowledge, therefore, means recognising the inherent 'activism' embedded within the process of knowledge production (Gibson-Graham 2008: 615).

In terms of research practice, a methodology informed by performativity values working collaboratively with other researchers and with people on the ground to "amplify the experiments that already exist and to help generate new experiments" (Cameron 2008 b: 8). This requires using particular research methods that enhance active participation, allow for people's own stories to be heard and look for difference, not dominance. For example, in her work with areas previously categorised as 'marginalised and disadvantaged' Cameron (2008 b) has employed strategies such as participatory action research, asset-based community development and diverse economies analytical frameworks. In this context, these methods brought forward the experimentation and innovation present in community responses to 'disadvantage'. She uncovered stories like that of the woman who "takes in young women off the streets and lets them stay in a small flat that she owns for minimal rent so they can get back on their feet" (Cameron 2008 b: 11). Such stories help to perform new understandings of 'disadvantage' and redefine possibilities for intervention.

This research is performative in the desire to tell the diverse stories of possibility that exist within local responses to climate change and in the hope that these stories might broaden mainstream ways of conceiving and enacting climate governance. Through

focusing academic attention on local level responses to climate change and the role of diverse economic practices therein, I hope to increase the visibility and viability of these types of responses within the climate governance context. Further, I have chosen methods that work with people to tell *their* stories (semi-structured interviews and document analysis), thereby collaborating with them to “amplify their experiments” (Cameron 2008 b: 8). It is hoped that this research will be of use to both the participant case studies as well as other local groups wishing to do similar projects.

Weak Theory

Weak theory is a practice of not trying to extract ‘truths’, only experiences and possibilities that might aid, inspire and instigate change elsewhere. As Gibson-Graham (2008: 619) explain: “the practice of weak theory involves refusing to extend explanation too widely or deeply, refusing to know too much”, it “welcomes surprise, tolerates coexistence, and cares for the new”. Notions of weak theory intersect with established traditions within qualitative and feminist research theory, which aim to draw out experience, emotion and feeling as viable knowledges and seek to emphasise and communicate rather than generalise, predict or control.

A weak theory perspective involves extending our conceptions of theory from simply performing a role of confirming hypotheses to helping us “see openings [and] provide a space of freedom and possibilities” (Gibson-Graham 2006 a: 7; 2008: 619). In this way, theory becomes an “exploratory thinking practice” (Gibson-Graham 2006 a: 60). For Gibson-Graham (2006 a: 60; 71), “the objective is not to produce a finished and coherent template that maps the economy ‘as it really is’ and presents a ready-made ‘alternative economy’”, as weak theory does not seek grand narratives or claim objectivity,

generalisability or replicability (as ‘strong theory’ does). For example, in their work, Gibson-Graham (along with other feminist theorists) have contributed to expanding our economic awareness to include aspects such as un-paid and volunteer work and gifting and barter transactions, thus widening the identity of the economy beyond the definitions commonly offered by dominant, ‘strong’ theories of capitalist economics (Gibson-Graham 2006 a: 60).

This research looks at small-scale projects developed by local people in their quest for effective responses to climate change. Such projects could be considered ‘weak’ and insignificant compared with the grand scale of climate change causes, impacts and required responses. A weak theory approach, however, emphasises the need to expand possibilities, not restrict us to finding one ‘be all and end all’ solution. In a weak theory context this thesis recognises local responses as one of many necessary scales of response with potential to offer important insights. It requires us to suspend our belief that meaningful climate responses are only possible through governments or international agreements, allowing us to open up a space for the local level to play a crucial role in creating effective climate response futures.

Reading for Difference

Reading for difference involves “re-reading for difference rather than dominance ... to uncover or excavate the possible” (Gibson-Graham 2008: 623). It is a technique drawn from the tools of feminist and queer theory. Judith Butler (1990), a feminist and queer theorist strongly influenced by both feminist and post-structuralist theory, is renowned for her application of reading for difference techniques to the gender landscape. In Butler’s work reading for difference extends our understanding of gender beyond the

binaries of male/female to embrace a “diversity of biological, emotional, social and cultural manifestations of sexuality and gender” (Gibson-Graham 2008: 623). In this way, reading for difference can be seen as a response to the feminist and post-structuralist mistrust of universal truths, ‘objectivity’ and the construction of fixed categories and dichotomies.

The applicability of reading for difference techniques is illustrated by Harris (2009) in his recent work on alternative food networks. His article illustrates that “the ways in which academics analyse alternative food politics have the potential to reinforce the alleged dominance of discursive neoliberalism, and thus to close down openings for constructive socio-environmental change” (Harris 2009: 61). In re-reading for difference, however, he finds multiple interpretations of alternative food networks (such as community gardens) are possible and emphasises the need for academic approaches that “recognise openings” and “a politics of possibility” (Harris 2009: 61-62).

Gibson-Graham (Gibson-Graham 2008: 624) see reading for difference as playing three key roles in research practice: to identify existing diversity; to clarify choices available in moving forward; and to open dominant discourses to questioning. For example, a feminist re-reading of the economy has highlighted that unpaid household labour accounts for 30 to 50% of economic activity in both rich and poor nations (Ironmonger in Gibson-Graham, 2006: 57). This labour is most often performed by women and not recognised as part of the ‘economy’, and hence not included in gross domestic product figures. This research brings new information, causes us to question the legitimacy of claims to capitalist economic dominance and offers a new way of conceiving the economy into the future.

The project specifically “reads” for difference within the climate change governance landscape. I have chosen not to focus on dominant government and industry responses or international climate negotiations based around mainstream capitalist market solutions. Rather I am seeking stories of people creating and using diverse economic practices to respond to climate change in ways that are locally relevant and simultaneously address peoples’ environmental, social and economic commitments.

In my contact with case study groups have been reading for difference, identifying where these projects depart from mainstream responses to climate change in terms of differences in economic practices and ethical motivations. I do not use an extractive model of data collection, but rather a participatory approach hinged on the use of semi-structured group interviews, supplemented with document analysis. In using methods that are open and flexible I hope interview participants from the case study groups will be able to explore, articulate and reflect on their visions, ethics and actions.

Data Analysis

In analysing data collected, I have not been looking for generalisable trends or information to stash into defined categories, rather I will be aiming to tell the stories of diversity and possibility associated with weak theory and reading for difference. A thematic analysis will be conducted, based on themes arising from the research objects, the literature and the material from case study groups. From commonalities and differences, it is hoped that some broad understandings regarding the role that diverse economy tools can play in creating effective and ethically relevant local climate responses will be gained.

3.3 Methodological and analytical issues

There are four methodological and analytical issues (perhaps weaknesses) that warrant noting. First, in its attempt to present the qualitative material gathered to ‘perform’ the diverse realities around local climate governance, this research is inherently a reflection of my personal bias and ways of interpreting the world. In compiling this research I am aware that, as Stanley and Wise (1990: 39) note:

all knowledge, necessarily, results from the conditions of its production, is contextually located, and irrevocably bears the marks of its origins in the minds and intellectual practices of those ... theorists and researchers who give voice to it.

Completely acknowledging this, I hope only that this research can provide a ‘weak theory’ that begins to acknowledge the immense creativity, diversity, passion and possibility that exist throughout local responses to climate change. Through presenting these alternate ways of reading the climate response context and its range of possible effective tools, it is hoped that they might open up the scope of climate responses currently considered credible.

Second, applying a diverse economies analysis to this research area was not easy, as it was a largely foreign concept for most case study groups. The ‘diverse economy’ therefore needed to be alluded to through more familiar ways of framing economic activities, for example through asking about how volunteer labour, in-kind support or gifts affect the group. There was a marked lack of familiarity with thinking about economic practices outside of capitalist norms. For example, one participant just finished explaining to me a unique pay-equity arrangement they had devised to meet

their ethical commitments when he commented that “its just run of the mill economics that we use here” (Rainbow Power Company Key Organiser 2009: 5). There is discussion on this in the chapters to follow.

Third, people interviewed used the terms ‘local’ and ‘community’ somewhat interchangeably. I had hoped in this research to keep to the concept of the ‘local’ as being contained within a certain, defined geographic region. While the geographic boundaries of what is considered ‘local’ can be variable, it does avoid the term ‘community’, which is almost inevitably loaded with multiple meanings. The positive connotations of ‘community’ have meant that it has become a beacon for many groups and their divergent purposes, slowly coming to mean ‘everything to everyone’ (Gibson and Cameron 2001; Valentine 2001). I have therefore attempted to avoid this conceptual difficulty and only use the term ‘community’ where and how those interviewed have used it.

Fourth, the concept of scale is referred to many times throughout this thesis in reference to different scales of climate governance: namely the international, national and local. Although these three are focus of this thesis, I do not mean to promote that they are the only scales at which climate governance occurs: there exist many more scales between these three (such as the region or state), however, due to time and length constraints I only refer to these. The importance of ‘scale’ as concept in this thesis really warrants exploration of both the concept and its use in Human Geography, but because of time and length constraints, I have not included this exploration.

Conclusion

This research attempts to open the range of climate change responses, increasing the visibility and viability of local level and diverse economic responses through a foundational belief in the performativity of knowledge. The analysis of the case studies offered in this thesis are presented in the hope that it will collaboratively “amplify their experiments” as possible responses to climate change (Cameron 2008 b: 8). In ‘creating’ this knowledge I hope the diverse realities represented will inspire and instigate change elsewhere. In this sense the performative hopes for this project are closely linked with my identity as an environmental activist. Following feminist ideas of praxis, the intention of this research is to generate knowledge that will be of benefit to participant initiatives in their projects and to others wanting to establish similar initiatives.

Chapter 4

Description

Introduction

This research involves taking a closer look at a variety of local level responses to climate change, from community climate action groups to small businesses with a motivating environmental ethic. All groups are united by a common desire to address climate change through the work they do, though, as we will see, this is often not their sole purpose. As can be seen in Table 4.1 below, groups differed enormously in size, structure, core activities and, of course, economic practices. In this chapter I introduce each case study, exploring their ethical commitments and the many economic practices each initiative engages to meet these commitments within their vision of an appropriate climate change response. Case studies are introduced in order of geography, from northern New South Wales through to Victoria, as geographic proximity has influenced the relationships between groups and it therefore makes sense to speak to them in geographic groupings.

Table 4.1: Summary of case study information⁸

CASE STUDY	INITIATIVE TYPE	SIZE	MAIN ACTIVITIES	OTHER INFO.
Rainbow Power Company (RPC)	Unlisted public company.	‘Small’ business: 16 fulltime equivalent employees.	Small scale renewable energy installations.	Also do aid work overseas installing small scale renewable energy.
Sustainable Living Armidale (SLA)	Incorporated not-for-profit association.	4-6 Key Organisers; 200 local members.	Wide range of local sustainability and energy related projects.	Part of the international Transition Town network.
New England Sustainability Strategy (NESS)	Incorporated not-for-profit association.	14 Key Organisers; 600 participants.	Development of a whole of New England region sustainability strategy & local solar bulk buy.	
Climate Action Newcastle (CAN)	Incorporated not-for-profit association.	4-6 Key Organisers; 400 local members.	Lobbying government & local solar bulk buy project.	Part of Climate Action Network Australia (CANA) and Climate Action Network international.
Sydney Energy Cooperative (SYD)	Registered Cooperative.	8 employees; 10 regularly active members.	Household solar installations & free consulting, training & workshops.	
Hepburn Community Wind Cooperative (HEP)	Registered Cooperative.	800 members 1 employee	Establishing a small community-owned windfarm	Establishing a model to help other groups do the same.
Future Energy (FE)	Unlisted Public Company.	‘Small business’: 5 Employees.	Small and medium wind and solar project development, and establishment.	

4.1 The Rainbow Power Company

Established in 1987, the Rainbow Power Company (RPC) is one of the “most experienced Renewable Energy companies in Australia” (RPC n.d.: 1)⁹. It is an unlisted public company in Nimbin whose main line of work is delivering a wide range of small

⁸ For case study locations see Map 3.1 on page 26.

⁹ Content in parentheses shows the format that will be used throughout this thesis to reference case study interviews. It contains a reference to which Key Organiser or General Member (A, B, C, etc.) is being quoted, the year of the interview and the page number of the interview transcript.

scale renewable energy options in the local area as well as in other parts of Australia and overseas. Responding to climate change is the main motivating force behind the RPC and it proudly identifies with being part of an “industry with a primary objective of turning the tide away from environmental destruction and towards environmental harmony” (Pedals 1995: 5). The RPC is a small business, employing 16 full time-equivalent staff to design, manufacture, sell and install renewable energy.

The RPC is considered a ‘local’ response to climate change for the purposes of this research for a number of reasons. First, they are a small business with *most* of their business activities in their local area. Second, the RPC has a unique approach to renewable energy installations, working from an ethic of wanting to ensure that solutions are not only sustainable, but also locally relevant to the people, their skills, lifestyles and environment. Sometimes this means working with clients to manufacture a unique design to suit their needs. And finally, the RPC was established through an organic process of bringing local people with the passion, skills and commitment together until “we had all the right people there, you know, people with all the right expertise” to make such a unique business work (Key Organiser 2009: 1).

A fundamental aim of the business is to “work toward the improvement of the conditions of the planet for the environment and all that implies” (Key Organiser 2009: 1). The RPC does this by providing the technology to help people and communities transition to sustainable, renewable energy generation systems in their local area, across Australia and throughout the ‘developing’ world. They also run free workshops “to educate the general public in all aspects of using energy from renewable resources and living and developing in a sustainable way” (Key Organiser 2009: 1). An ethic of “doing things differently” is

pervasive throughout the organisation: from their completely self-sustaining office and workshop (complete with renewable energy generation, passive solar design, rain water tanks and composting toilets!) to the fundamental ethic of “examin[ing] alternate possibilities of accomplishing a task, service or structure in accordance with ethics to choose the *most appropriate method*” (Key Organiser 2009: 1, emphasis added). For the RPC meeting the challenges of climate change is about ‘just doing it’: providing options, installing renewable energy, changing lifestyles and rethinking how we do things so that they are best aligned with the principle of environmental sustainability.

Stemming from recognition of the tensions that arise between ordinary business models and adhering to social and environmental ethics, the RPC has applied their willingness to examine and rethink in order to develop unique and “appropriate” economic methods. For the Key Organiser (2009: 2, 4, 6) “appropriate methods” are those which are “appropriate in terms of sustainability and ethics”, that deliver “the least environmental impact and the best in terms of human civilisation generally”. For the RPC this has meant developing unique approaches to workplace operations in order to address social and environmental concerns; Table 4.2 below gives a summary of the RPC’s diverse economic activities. For example, even though it is an unlisted public company, the operations of the company are closely aligned to cooperative practices, as the Key Organiser (2009: 3) explains:

We’ve built a lot of the cooperative structure into the company, because cooperatives just feel better than most companies do.

This melding of the business model and cooperative principles can be seen in the RPC’s decision to have equal pay among all workers (including ‘directors’) and have workers participating in decision making. Another unique element is that the RPC also ‘tops-up’

equal pay with allowances for long commuting to and from work, and for use of personal tools at work.

Table 4.2: Summary of the Rainbow Power Company’s diverse economic activities.

TRANSACTIONS	LABOUR	ENTERPRISE
<p>MARKET</p> <p>- Sales: Renewable energy sales and installations.</p>	<p>WAGE</p> <p>- Wage: All work is paid.</p>	<p>CAPITALIST</p>
<p>ALTERNATIVE MARKET</p> <p>- Aid: Overseas installations under government and NGO aid grants.</p>	<p>ALTERNATIVE PAID</p> <p>- Pay Equity: Equal pay for all workers.</p> <p>- Tool allowance.</p> <p>- Fuel allowance.</p>	<p>ALTERNATIVE CAPITALIST</p> <p>- Alternative Capitalist Company: RPC is driven by environmental & social ethics, not profit and influenced by cooperative principles.</p>
<p>NON-MARKET</p> <p>- Gift-giving: Free workshops such as ‘Living with solar power’.</p>	<p>UNPAID</p>	<p>NON-CAPITALIST</p>

4.2 Sustainable Living Armidale

Sustainable Living Armidale (SLA) is a Transition Town initiative that started in 2007 after local participants in a series of environmental sustainability workshops decided to establish an on-going sustainability group. It now has over 200 members from the Armidale area. Motivated, as all Transition Town groups are, by the “twin challenges” of climate change and peak oil (Hopkins 2008), SLA seeks to raise community awareness on these issues as well as act to “inspire and empower our community to build a more self-reliant, resilient future” (SLA n.d.: 1). Being grassroots-focused and having “inclusive, participatory and democratic processes” are core principles of the initiative (Key Organiser A 2009: 1). SLA is comprised of a number of autonomous sub-groups on topic areas such as energy, food, awareness, heart and soul and transport, while all being committed to the overarching principles above. The focus of the energy sub-group includes a public solar panel installation, local renewable energy workshops and energy awareness raising activities.

Fundamental to SLA's approach and all of its activities is a desire to "build local capacity and the resilience of the community" (Key Organiser C 2009: 6). For SLA, as for the Transition Town movement at large, local self-reliance and resilience are key elements of being able to respond to the challenges of climate change in an innovative, effective and locally relevant way (Hopkins 2008). For Hopkins (2008:15), the founder of the Transition Towns movement, the overall goal is:

rebuilding local agriculture and food production, localising energy production, rethinking healthcare, rediscovering local building materials ... rethinking how we manage waste, all building resilience and offering the potential of an extraordinary renaissance - economic, cultural and spiritual.

In practice for SLA this means acting across many areas at once, all at the local level, and in collaboration with each other.

The Transition Town movement generally and SLA specifically see a role for autonomous local action in effective climate governance. They see the local level offering fast and relevant means to take action on climate change through involving people in activities that affect their daily lives and build a sense of efficacy and hope (Key Organiser A 2009:1). The desire to take action and work cooperatively with others who share similar concerns are central motivations for all three Key Organisers interviewed. As Key Organiser B (2009: 1) commented: "I like the idea of cooperating as a community instead of relying on government to do things". There is a general sentiment within SLA that government is slow to act, and where it has, actions are dissatisfying: "Look how long it took just even to get a government to do something of value like sign the Kyoto Protocol". Instead they choose to focus on another scale,

where “local action on local issues helps people believe in possibilities and gives them a base for working on wider issues or at different levels” (Key Organiser A 2009: 9).

Stemming from a motivation to initiate an inclusive and achievable community renewable energy project, the SLA energy group has launched a project to install community-owned solar panels on the local swimming pool. The project aims to include the local community in organising, establishing and funding the project, thereby building a sense of common purpose and possibility within the local community. One Key Organiser described this sentiment, saying:

most people don't have the capital to even just put PVs [photovoltaic solar panels] on their roof ... by doing something on a public building where everyone can contribute a little bit, it gives those who might feel disempowered to change the world, who feel they can't help because they can't afford it, it gives them the feeling that they can help ... thereby enabling more people to be involved. (Key Organiser A 2009: 5)

In delivering the project SLA is working with the local council to devise an on-going funding strategy where money saved on council electricity bills will go into an SLA fund. This fund can then be used to purchase more public solar panels or go towards other future sustainability projects.

As the summary in Table 4.3 below demonstrates, SLA as a whole has developed some unique economic practices. For example, they launched a funding partnership with a local credit union where by credit union whereby members can nominate SLA to be the recipient of a percentage of their annual holdings. On another occasion, SLA organised a Sustainable Garden Tour of people's food-producing gardens in the town. They approached local businesses that they deemed to be 'ethical' for sponsorship and

individuals who went on the tour purchased tickets. The money raised went to an SLA fund, which any of the sub groups can use, upon agreement of the other sub-groups. These economic practices reflect SLA’s desire to build local resilience through building strong, cooperative links among local people, groups and businesses.

Table 4.3: Summary of Sustainable Living Armidale’s diverse economic activities.

TRANSACTIONS	LABOUR	ENTERPRISE
MARKET	WAGE	CAPITALIST
<p>ALTERNATIVE MARKET</p> <ul style="list-style-type: none"> - Grants: account holders in the local credit union grant a percentage of holdings. - Sales: ticket sales for local home garden tour. 	<p>ALTERNATIVE PAID</p>	<p>ALTERNATIVE CAPITALIST</p> <ul style="list-style-type: none"> - Alternative Capitalist Bank: the local credit union.
<p>NON-MARKET</p> <ul style="list-style-type: none"> - Donations: Council donates money saved by public solar panels to SLA. - Fund: SLA funds go towards future community environment projects. - Sponsorship: local ‘ethical’ businesses selected as sponsors for SLA garden tour event. - Gift-giving: free workshops and events for local people. 	<p>UNPAID</p> <ul style="list-style-type: none"> - Volunteer: all SLA organising is done by volunteer labour. 	<p>NON-CAPITALIST</p> <ul style="list-style-type: none"> - Not-for-profit association: SLA is an incorporated not-for-profit association.

Further, SLA has also done a lot of thinking about ‘the economy’. As SLA Key Organiser A (2009: 8, 10) commented, “we are also interested in the other side of the economics – of the people’s energy, the community’s energy, whether it be financial, enthusiasm, time, knowledge, links or skills” and, hence, SLA sees that they “have the potential to influence how people interact with the economy, by encouraging people to spend time doing things, using the time-economy differently, as well as the dollar economy differently”. In helping people to fundamentally re-think the ways in which they think about and interact with the ‘economy’ SLA hopes to help build a local economy that “might have lots of things like trade and barter and local currencies” (SLA Key Organiser B 10). For SLA the overarching aim for a sustainable society is linked

with moving away from “an economic system based on endless growth in a finite world” and towards one that values and accounts for environmental health (SLA Key Organiser B 10).

4.3 The New England Sustainability Strategy

The group driving the New England Sustainability Strategy (NESS) is an unusual consortium¹⁰ of non-government organisations, local individuals, businesses and government agencies committed to developing an “all of region” sustainability strategy for the New England region. NESS’ sustainability focus is very broad, stemming from a belief that any successful sustainability effort must encompass the many diverse aspects of society, economy and environment present within any region. The imminent challenges presented by climate change are a key motivator for the group in developing the strategy at this time. For them, an effective climate response involves thinking about sustainability strategies and projects within a context of many inter-connected scales and the interaction of many actors and issues. Being inclusive, participatory and transparent are key organising principles for NESS in developing this strategy. Their approach is pragmatic, working on practical projects, such as the Solar New England Region Project (SNERPY), parallel to developing the strategy. Over 150 individuals and organisations have participated in the face-to-face aspects developing NESS to date; and there are over 700 people on the NESS database. The NESS Foundation Report 2009 is the ‘foundation’ of the strategy, which is a continuing work in progress.

¹⁰ The New England Sustainability Strategy Executive (NESSiE) is the consortium leading the process of developing NESS, which to date has involved research, public forums, interactive on-line aspects and the consolidation of all of this into the NESS Foundation Report 2009. The membership of NESSiE is diverse reflecting what they identify as the “seven facets of sustainability”: Social, Youth, Environment, Economic, Government, Indigenous and Global (Key Organiser 2009: 3). NESSiE membership is also continually revised, according to whose membership and what skills are most needed at any given time.

NESS clearly position themselves as a ‘regional’ project acting to develop a sustainability strategy for the whole of the New England region, encompassing Guyra, Walcha, Uralla and Armidale local government areas. Their approach is markedly different to the other ‘local’ initiatives included in this research on several accounts.

1. Their climate response is underpinned by a focus on sustainability, as very broadly defined and requiring action across the whole region on a number of fronts simultaneously.
2. They position themselves as working within many scales of action: “Sustainability is a global challenge and requires a global solution by aligning individual, local, regional and national responses ... [NESS] reflects this as a regional approach, complementing local efforts and nested within national and global priorities and opportunities” (NESS 2009 a: 5); “it’s not just looking at the physical location, it’s looking at this location as part of a global, planetary system” (Key Organiser 2009: 1).
3. As such, they engage a range of stakeholders in the development of the strategy, from local individuals to businesses, government and industry – “whether they’re physically located in this region or whether they have a stake in this region” (Key Organiser 2009 a: 1). For this reason United Nations delegates, for example, are also invited to participate in developing the strategy.

Despite these points of divergence NESS is considered ‘local’ within the context of this research because they exist as a climate response at a scale smaller and more grassroots than those of state or national governments, big industry or international agreements. Also, NESS has a fundamental commitment to listening and including local people, building on and “complementing” their local sustainability efforts (NESS 2009 a: 5).

Although NESS is not solely energy-focused, a key principle to emerge from community consultation and now embedded as one of five strategic priorities within the region

strategy is to create “a new energy future” (Key Organiser 2009: 4). This energy aspect of the strategy identifies three key areas to address: shifting to renewable energies and fuels, “greatly” increasing efficiency, and reducing energy dependence by “reconsidering decisions which have heavy energy footprints” (NESS 2009 a: 22). NESS’ first two practical projects included within the Solar New England Region Project (SNERPy) have been bulk buys and installations of household solar photovoltaic panels and solar hot water systems. As with similar projects run by the other case studies in this thesis, building local capacities, educating people on energy use and outreaching to a broad range of people were important motivating factors. SNERPy has brought NESS “a credibility”, with the Key Organiser (2009: 4-5) commenting:

There’re so many processes that focus on planning and thinking around sustainability. I think it’s given us respect with the business community who are out there doing things and see sustainability as a bit of wish-washy, bleeding-heart type stuff ... I see very clearly that every practical thing that we ever do is going to broaden the network of organisations engaged in the issue of sustainability.

SNERPy aims to install 400 solar photovoltaic and hot water systems across the region, thereby generating \$6 million worth of economic activity across the region.

NESS engaged in many diverse economic practices to deliver SNERPy, as summarised in Table 4.4 below. To deliver the project, SNERPy worked with AusEnergy, a small renewable energy company who assisted in bulk buying and installing the products in return for only wages for services (i.e. they generated no profit from this activity). Grants and partnership funding were received for the training element of the project (training local people to install solar panels), and in-kind support from local businesses made marketing and promotion possible. The cost of installations included enough

income to fund a regional coordinator for the project and a 1% donation to NESS’ newly established New England Sustainability Foundation. SNERPy is predicted to generate \$10,000 – \$15,000 for the NESS foundation, which can be used to fund future sustainability projects. As part of this project SNERPy also worked with the New England Credit Union to launch a ‘solar-loan’, to enable households to access finance to be able to afford the up front costs of installing solar power. The loan is also available for other ‘green purposes’ and involves only one up front application fee (New England Credit Union 2009: 1; Armidale Express 2008: 6).

Table 4.4: Summary of the New England Sustainability Strategy’s diverse economic activities.

TRANSACTIONS	LABOUR	ENTERPRISE
MARKET	WAGE - Wage: SNERPy project coordinator. - Wage: Solar panel installers.	CAPITALIST
ALTERNATIVE MARKET - Grants: received to help develop NESS. - Assisted Market: local residents purchase solar panel from NESS pre-arranged installer at discounted prices. - Rebate: Government’s \$8,000 solar rebate.	ALTERNATIVE PAID	ALTERNATIVE CAPITALIST - Alternative capitalist bank: New England Credit Union providing interest free green loans. - Alternative capitalist company: SNERPy project partner AusEnergy is motivated by an environmental ethic, not profit.
NON-MARKET - In kind: donations of venue, food & printing to NESS events - Foundation: established by NESS to fund future sustainability projects.	UNPAID - Volunteer coordination & participation in developing NESS	NON-CAPITALIST - Not-for-profit incorporated association: NESS.

The initial development of the New England region sustainability strategy was made possible through grant funding, countless volunteer hours and much in-kind support (see Table 4.4 above). Total grants of \$21,000 came from the NSW Department of Environment and Climate Change, Armidale Family Support Services and the Armidale-Dumaresq Shire Council. Volunteer and in-kind support is calculated to exceed

\$165,000. While NESS has applied for further grants, the Key Organiser (2009: 4) acknowledged:

It's completely unrealistic to think that that funding will ever come (solely) from donations, grants or contracted engagement. It will be a potpourri of everything that will add up to that picture (of financial sustainability).

For this reason NESS has decided to build on the strengths of running income generating activities where 'profits' can be used to fund future activities of the association.

4.4 Climate Action Newcastle

Climate Action Newcastle (CAN) is a climate action group based in Newcastle whose central mission is to "secure a clean energy and low carbon future for the Hunter which will in turn contribute to a sustainable future for all" (CAN n.d. a: 1). Their driving motivation is to "do something on climate change", recognising it as the "biggest issue of our times" (Key Organiser A, 2009: 1). CAN incorporated as a not-for-profit association in 2006 and has now grown to over 400 local members. It is entirely volunteer run by a core group of 4-6 people. CAN's approach is action-based and focused on a variety of climate governance spheres at once: the local Hunter region, national and international. Two of their four goals are directly related to aiding the transition to a clean energy future (CAN n.d. a: 1):

- "To motivate and build the capacity of government, industry, business and people to take action towards a clean energy future"; and
- "To achieve measurable outcomes towards reduction of carbon emissions".

As such, CAN's key activities are aimed at engaging local residents in local energy activities as well as influencing broader state and national climate decision makers.

Following a commitment to deliver “measurable” carbon reductions and to “stop talking and start doing” (Key Organiser A 2009: 1), CAN embarked on a practical project to encourage local Newcastle residents to switch to renewable energy, launching the ‘Newcastle’s Going Solar’ project in 2008. This has been their central project for the past year. The project was a bulk-buy scheme that used the federal government’s then \$8,000 solar rebate under the Solar Homes and Communities program to facilitate the installation of solar photovoltaic panels onto 500 homes in Newcastle. The project was completely organised by CAN volunteers, with CAN acting as the conduit between the government rebate process and local residents and the actor linking local residents with pre-arranged solar installers. All information, advice and organising services offered by CAN to local residents were free. As can be seen in Table 4.5, CAN essentially established an ‘assisted market’ through making the solar installation and rebate process more accessible and affordable to local residents.

To deliver the ‘Newcastle’s Going Solar’ project, CAN negotiated a range of different ethical and economic issues. Key Organiser A (2009: 2) explained that “(w)e tend not to have fixed ethical positions, we explore them when they come up”. “Reputation in the community”, “organisational sustainability”, “accountability and ethics”, as well as price, were some of the seven key criteria CAN developed for selecting the solar panel installation companies (Key Organiser A 2009: 2, 3). CAN had a preference for using local businesses, but in the end engaged the Sydney Energy Cooperative for the first and third round of installations (also a participant in this research) and a business from the

Blue Mountains for the second, as they had the best fit with the criteria. The practices that reflected the criteria included that both contractors acted out of a strong environmental ethic, they passed the price reductions of bulk buying on to CAN customers, and workers were paid fair wages for the work that they did. CAN decided to use the project as a means of fundraising and added \$66 onto every installation in the first round of installations; customers were aware and happy that this money would be used to fund future CAN projects (CAN n.d. b: 3). A summary of the diverse economic practices entailed in CAN’s ‘Newcastle’s Going Solar’ project is in Table 4.5 below.

Table 4.5: Summary of the diverse economic activities of Climate Action Newcastle’s ‘Newcastle’s Going Solar’ project.

TRANSACTIONS	LABOUR	ENTERPRISE
MARKET	WAGE - Wage: Solar panel installers.	CAPITALIST
ALTERNATIVE MARKET - Rebate: Government’s \$8,000 solar rebate. - Assisted Market: Local residents purchase solar panels from CAN’s pre-arranged installers.	ALTERNATIVE PAID	ALTERNATIVE CAPITALIST - Alternative Capitalist Company: Contractor B for solar installations (Blue Mountains), driven by environmental ethic and affordability as well as profit.
NON-MARKET - Gift-giving: CAN gives free information, advice & organising to potential solar project ‘consumers’. - Fund: Money raised by CAN though solar project is put to future CAN projects or other local environmental initiatives.	UNPAID - Volunteer: Organising hours for CAN and the running of the solar project.	NON-CAPITALIST - Incorporated Not-for-Profit Association: CAN. - Cooperative: Contractor A for solar installations (Sydney Energy Coop).

The diverse economic activities are not without their challenges. For example, at the conclusion of the solar project both Key Organisers recognised that organising and delivering this project on a volunteer basis was strenuous and, after some group debate, decided that in future such projects would need to include an element of paid organising.

The funds generated from the solar installations mean that CAN now has the option of paying staff to do important work if need be.

In organising this project CAN recognised that while solar panels “are not the saving grace, they are an excellent way to get people in and engaged” (Key Organiser A 2009: 1). Indeed, providing pathways for “mainstream” people to engage with climate change issues was an important factor in deciding to do this project (Key Organiser A 2009: 2). For General Member A (2009: 1) who participated as a ‘consumer’, the project bridged a gap. In his words: “There’s a gap between what one does and what one should do ... projects like this make it more possible for people to do their bit”. In this way, CAN’s solar project not only facilitated the uptake of renewable energy in Newcastle (the world’s largest coal exporting port), it also turned what is normally an individual act (installing solar panels on your roof) into a collective act of local climate governance. With the expanded member base it attracted as a result of the project, CAN has grown its potential as a change maker and a lobby group.

CAN has a clear awareness of being a “piece of the puzzle” – one integral actor within many necessary scales of necessary action:

The solution to climate change is in the hands of the leaders of every nation and every person on the earth today ... This issue is far beyond, in time and space, any single one of us ... We must come together and call for strong, legally binding commitments from our leaders. (CAN n.d. c: 1)

For CAN, local projects and awareness raising activities are a means to engage people in the broader climate movement, to increase pressure on the government to act and become more accountable in their response to climate change. As Key Organiser A (2009: 1) explains: “We’re focused on doing whatever we can to bring people along in this fight

that we're in". CAN ultimately see national governments playing a key role in the process of climate protection, but understands strong government action to be unlikely without the type of strong community action and support garnered through projects like 'Newcastle's Going Solar'.

4.5 Sydney Energy Cooperative

The Sydney Energy Cooperative (SEC) began in 2007 as the initiative of newly graduated Solar Photovoltaic students from the University of New South Wales, who wanted to use their technical skills to do practical things to protect the environment, particularly from climate change. It is an environmentally focused not-for-profit cooperative that provides a range of renewable energy services: solar panel installations, energy audits, energy efficiency retrofitting, training, technology bulk buys, and renewable energy consulting and educating. Key organising principles are to engage the community in its activities and to do projects that members are passionate about and that are relevant to the local community. SEC has a 'do-it-yourself' approach focused on building the capacity of local groups and individuals to respond to climate change.

SEC's activities are motivated by an inherent desire to take practical action on environmental sustainability and to respond to a perceived need in the community: "we saw that there's a lot of people who had a lot of awareness, motivation, good will ... we thought we could be most effective by providing activities for them to do" (Key Organiser 2009: 1). From this call to action, SEC has developed an innovative program of renewable energy related workshops and skills-based trainings. For example, SEC offers a free 'Community Training Program' in order to "empower members of the broader community to carry out practical energy-related activities to help the

environment” (SEC n.d. a: 1). This program includes on-the-job training in energy audits, energy efficiency retrofitting and solar installation and maintenance. Such activities reflect the cooperative’s strong commitment to skill sharing and enabling more people to champion sustainable energy solutions.

In response to popular demand, providing solar panel installations to households under the federal government’s former \$8,000 solar rebate has been a major line of work and source of income for the SEC over the past 18 months. Income gained from solar panel installations goes to funding other SEC activities that cost money, such as the free energy-related consulting and auditing given to less financially well-off households and initiatives. Like many others, SEC recognises that certain projects, like solar panel installations, “are really popular with the public ... so it’s a tool – a way to get people on board” (Key Organiser 2009: 3), to engage people in climate issues and hopefully change their behaviour. A commitment to social equity and accessibility has meant that the cooperative has found itself “installing (solar panels) in poorer suburbs where nobody else was” (Key Organiser 2009: 2). This reflects SEC’s desire to be “going in and saving energy for people who really appreciate the money that they save ... and going to places that are not always kept in the loop and up to date” (Key Organiser 2009: 2). Affordability and accessibility of technologies and information are very important elements of the cooperative, reflecting their underlying belief that truly addressing climate change necessitates broad social change across all sectors of society.

The SEC often collaborates with other community groups to deliver projects, such as the ‘Newcastle’s Going Solar’ project with Climate Action Newcastle (as discussed in section 4.4). In delivering such projects SEC emphasises designing a mutually beneficial project. For example, SEC is able to offer technical advice and services, training in

setting up bulk-buy deals and information on current government rebates, thereby building the capacity of the other group to continue the work in the future. SEC appreciates being able to provide the “missing link” between a group’s goals and delivering physical realities. They also recognise that such joint bulk-buy projects offers both groups unique economic possibilities: “that type of project is a good fundraiser for the other environment group – which, different to our group, doesn’t usually have access to funding that isn’t linked to a grant or a project. It also helped us build up our business of doing things in bulk, to help us bring down the cost of the panels” (Key Organiser 2009: 2). The diverse economic activities of SEC are summarised in Table 4.6 below.

Table 4.6: Summary of Sydney Energy Cooperative’s diverse economic activities.

TRANSACTIONS	LABOUR	ENTERPRISE
<p>MARKET</p> <ul style="list-style-type: none"> - Wholesale markets: Solar panels, lights, etc. from international markets. - Contracts: Solar installations. - Sales: Renewable energy technologies and appliances. 	<p>WAGE</p> <ul style="list-style-type: none"> - Wage: Paid employees doing solar installations. 	<p>CAPITALIST</p>
<p>ALTERNATIVE MARKET</p> <ul style="list-style-type: none"> - Discounts: For members on bulk goods. - Barter: Biodiesel van use in exchange for renewable energy consulting. 	<p>ALTERNATIVE PAID</p>	<p>ALTERNATIVE CAPITALIST</p>
<p>NON-MARKET</p> <ul style="list-style-type: none"> - Gift giving: Free training, audits, retrofitting and consulting. - Fund: Using money generated from profitable projects to non-profitable SEC projects. - Donations: To other environmental groups. 	<p>UNPAID</p> <ul style="list-style-type: none"> - Volunteer: Coop administration, bulk buy organising and running free workshops, training and consulting. 	<p>NON-CAPITALIST</p> <ul style="list-style-type: none"> - Cooperative: SEC is a cooperative.

Protecting the climate and environmental health at large is the key motivating factor for the cooperative. The SEC believes that “radical change to the way society operates is needed immediately to prevent further degradation of the environment” (SEC n.d. b: 1), and their behaviour and decisions reflect the fact that they are willing to be innovative and forego potential profit to uphold this principle. This ethical commitment, however,

does present practical challenges. For example, the cooperative has decided to cease installing solar panels under the federal government's new Renewable Energy Certificates (RECs) scheme¹¹. The incoming policy enables eligible households, businesses, community groups, etc. to access Renewable Energy Certificates (RECs) instead of the \$8,000 rebate. RECs are distributed to those who install small-scale renewable energy systems (such as photovoltaic panels, micro wind and micro hydro) on a multiplied (times five for the first three and a half years) scale so as to increase the financial appeal of installation (Department of Climate Change 2009 b: 1-3). In order to recoup some of the cost of installation, RECs are sold in the free market. SEC, along with the Rainbow Power Company and Sustainable Living Armidale, expressed concern based on the fact that attributing RECs on a multiplied scale to installers means that the national renewable energy monitoring levels will be inflated, making it appear that Australia has met its Mandatory Renewable Energy Target (MRET; as discussed in the footnote above) when this may not truly be the case. Hypothetically, if the RECs market is dominated by small-scale installers, Australia could appear to have met its target with only 4% (1/5 of the 20% target) of electricity generation being real renewable energy generation (Sydney Energy Cooperative 2009: 2). For this reason, SEC believes this to be a misleading and damaging policy, effectively making it appear that more green house

¹¹ On June 9 2009, part way through the fieldwork for this research, the federal government announced that they were cutting the \$8,000 solar panel rebate available to households under the Solar Homes and Communities program, before the planned time in July 2009 (Garret and Wong 2009). The changes in policy came as part of the government's 'extended' Mandatory Renewable Energy Target (MRET) passed on 20 August 2009, which "ensures 20 per cent of Australia's electricity comes from renewable sources by 2020" (Department of Climate Change 2009 c: 1). The government attributes this cut to the program being too effective and therefore costing four times as much as was budgeted (Garret and Wong 2009: 1). Indeed, 80,000 photovoltaic solar systems will have been installed on homes across Australia and a doubling of accredited solar panel installers over the past year under the program (Garret and Wong 2009: 1). This sudden change upset many of the case study's plans and throughout the interviews many people provided perspectives on the effect of the old policy and expressed ambivalence about the incoming replacement policy.

gas abatement has occurred than really has. As a Key Organiser explained: “if the aim was to help the environment, then under the new scheme, putting in solar panels shouldn’t happen; we won’t install them.” As such, SEC will be focusing in other activities and developing new funding streams into the future, though they are not sure what this will entail yet.

4.6 Hepburn Community Wind Cooperative

The Hepburn Community Wind Cooperative (HEP) is the first community-owned windfarm in Australia. Motivated by a desire to take substantial action on climate change as a community and to show that it is possible, local members have put countless volunteer hours into making the vision of local, community-owned renewable energy a reality. From its humble beginnings in 2005, HEP has grown dynamically, working closely with Future Energy, a small renewable energy developer (also a participant in this research), to secure full development approval, order their turbines and rally impressive community support and investment. From its inception by the local residents in the Hepburn Renewable Energy Association, the project’s focus has been in developing a hands-on energy project as “a means of engagement for communities” on climate change issues (Key Organiser C 2009: 2). The other fundamental aim is to supply local energy needs from a community-owned renewable energy source. It is also their hope, being the first, that they might pave the way and streamline the process so as to help other communities in Australia to do similar projects in the future. Hepburn is an hour and a half inland from Melbourne.

HEP decided quite early on to establish itself as a single-project initiative, rather than trying to cover a number of sustainability issues generally, “thinking it would be easier to

get people involved with a concrete project” (Key Organiser B 2009:1). Facilitating “wide-scale” and “authentic” community involvement in the process has been a key motivating factor from the start, instigating HEP to organise numerous local forums, information sessions, public meetings and information stalls (Key Organiser C 2009: 2). Establishing HEP as a cooperative was driven by the desire to maintain equal power distribution among individuals (where one member gets one vote rather than voting power being proportionate to the percent of shares owned), as this would enable local ownership to be retained despite some large outside investments. In this way, HEP was able to balance the principle of authentic community ownership with the need to attract large investors from further afield. To further embed the principle of local ownership, part way through the share offer, HEP instituted different minimum offers for local and non-local investors, at \$100 for locals and \$1,000 for others, to encourage greater local uptake. For HEP ‘local’ is defined as being within the Hepburn shire.

HEP are erecting two two-megawatt turbines on a farm 10 kilometres south of Daylesford, in the Shire of Hepburn. These will generate enough electricity to supply the equivalent of 2,300 average Victorian homes. The project requires full up front costs of \$12.9 million for development and turbine purchase, transport and installation. Two-thirds (67%) of this money is coming from shareholders, 50% of whom are local people. Of the remainder of the funds needed, 8% is provided from a Sustainability Victoria grant and 25% is debt from the Bendigo Bank. The farmer on whose land the turbines will be erected will receive rent, adding to the continued viability of his farm in a region rife with subdivision and occupation change. A majority of the organising work that has made the venture possible has been contributed by volunteer labour, which has raised a tension in the identity of the project. As Key Organiser A (2009: 10) comments:

it's that weird mix, that amalgam of being a commercial (and a volunteer) project, people who put in money will earn money, but a lot of people put in a lot of time that is completely not proportionate to what they will get out of it.

Another Key Organiser (B 2009: 10) replied: “but that is the nature of community” - people being willing to work together for a common goal whether or not they get paid. There is one part-time paid organiser for HEP.

Once established, the project will generate revenue from the sale of the electricity to an energy retailer, such as Energy Australia. From this HEP will need to “pay for the upkeep of the turbines, insurances and corporate overheads and then what is left over is distributed to the Community Sustainability Fund and to investors” (Key Organiser C 2009: 11). HEP has decided to contribute \$40,000 per annum (\$20,000 per turbine) to a Community Sustainability Fund, prioritising this contribution over shareholder returns, of which shareholders are fully aware. This fund will distribute financial benefit back to the local community, being used to fund “projects that address three areas of sustainability: social, economic and environmental sustainability in our area” (Key Organiser C 2009: 10). According to HEP Key Organisers (2002), this \$40,000 per annum contribution is in stark contrast to the \$500 per annum per turbine normally contributed by a typical commercial windfarm. Financial benefit to the community and “trying to provide an alternative to large wind farms run by large companies” is an important element of the project (Key Organiser B 2009: 1). Too often large companies come in, set up their business, make lots of profit and leave again without contributing to the community, and Key Organisers (2009: 1-2) felt this was at least some cause for the local opposition to many windfarm proposals across Australia. Table 4.7 below offers a summary of these many diverse economic practices that make HEP possible.

Table 4.7: Summary of Hepburn Community Wind Cooperative’s diverse economic practices.

TRANSACTIONS	LABOUR	ENTERPRISE
<p>MARKET</p> <ul style="list-style-type: none"> - Wholesale markets: purchase of wind turbines from international market. - Purchase: local people purchase electricity from energy retailer. - Contracts: HEP contract Future Energy to perform assessment and approval procedures for windfarm. 	<p>WAGE</p> <ul style="list-style-type: none"> - Wage: one paid organising position for HEP. - Wage: Future Energy employees paid for assessment and approval work for HEP 	<p>CAPITALIST</p> <ul style="list-style-type: none"> - Capitalist company: HEP sells energy produced from windfarm to energy retailer.
<p>ALTERNATIVE MARKET</p> <ul style="list-style-type: none"> - Differentiated share offer: with different minimum offers for locals, reflecting ethical commitments. 	<p>ALTERNATIVE PAID</p>	<p>ALTERNATIVE CAPITALIST</p> <ul style="list-style-type: none"> - Alternative capitalist company: Future Energy is motivated by environmental concerns and a desire to work closely with community groups.
<p>NON-MARKET</p> <ul style="list-style-type: none"> - Grant: from Sustainability Victoria. - Fund: Community Sustainability Fund established to fund local sustainability projects in the future. 	<p>UNPAID</p> <ul style="list-style-type: none"> - Volunteer: by HEP members and Future Energy ‘employees’ in organising the windfarm & the cooperative. 	<p>NON-CAPITALIST</p> <ul style="list-style-type: none"> - Cooperative: HEP is a cooperative.

HEP is encouraged by the awareness of and will to act on climate change that they see within the community at large. They believe that it is more effective to engage people in addressing climate change on the basis of empowerment rather than fear of climate change consequences or guilt for inaction. Key Organiser A (200(: 12) explains that HEP’s approach is:

Just engaging with people, helping them to understand the technology, the issues, talk about climate change but in an empowering ... we have a real concern about fear as the motivator ... [for us] the act of engaging people in the issues is more through something that is empowering because you are doing something about it.

Their project (the windfarm), therefore, is purposefully hands-on and practical, aiming to encourage participants “to become aware of what a community can do together” (Key

Organiser B 2009: 1). For HEP, then, providing a practical project that demonstrates the community's power to get in there and create change gets people on board in an empowering way, acting as a means for positive social mobilisation.

Local people organising autonomous projects to directly and dramatically reduce their carbon footprint also comes from a place of recognising that "we don't have to wait for the leaders to make change" (Key Organiser C 2009: 3). HEP sees that:

if every community in Australia that had the resources did what we're doing then well before 2020 we could reach our targets ... rather than waiting for things to happen at the big end of town, we just get around doing it.

In this sense, the benefits of projects such as these are not only in the material benefits of carbon dioxide reduction and local electricity supply, but "possibly more importantly, it's a way of mobilising the community, and creating a base from which you can then do other things from" (Key Organiser A 2009: 12). In fact, HEP's entire approach seems to stem from this fundamental desire to embed within people's minds the possibilities of having a different understanding of how and where change happens.

Essential to HEP is the idea that not only are they making tangible in-roads to local climate action, but also, being the first of its kind, they are able to create a model by which other communities will be able to do similar projects faster and more easily. Key Organiser A (2009: 12) explained that "the model is really important too, just saying to people 'look, this can be done, here is a different way of doing things'". The desire to be a model is driven by the fact that "(w)e know that to have any effect on a planetary level, each community can't take the time that we've taken ... the world needs these projects to be done much quicker" (Key Organiser B 2009: 8). HEP believes it will be possible for

other local initiatives to do in two years what has taken them five, given the learnings from the project and the fact that future initiatives will have an example to follow. For HEP one of the key challenges was that \$6 million was a “very large amount of money to raise for something that hadn’t been done before in Australia” (Key Organiser C 2009: 6). With living proof that it is possible and it is a viable investment, future initiatives should find it easier to attract investors.

4.7 Future Energy

Future Energy (FE) is a small unlisted public company (Pty. Ltd.) based in Melbourne. In setting up the business, the founders of FE were motivated to fill the gaps they saw within Australia’s renewable energy sector. The first gap being that the renewable energy industry as a whole in Australia is in its infancy and in need of rapid expansion to meet the calls for sustainable energy production in a changing climate. The second was that there are almost no small to medium scale renewable energy developments in Australia, as neither government nor industry have been interested in this scale of operation. In filling these gaps FE’s mission is to “promote renewable energy by developing, owning and operating projects which meet the aspirations and expectations of both investors and non-financial stakeholders” (FE n.d. a: 1). They are currently working on one solar thermal and six windfarm developments throughout Victoria, one of which is the Hepburn Community Wind Cooperative (HEP) windfarm. For the purposes of this research, FE is considered ‘local’ because of their role in facilitating local renewable energy developments with local sustainability groups like HEP. They are also considered ‘local’ because they, like NESS, exist as a climate response at a scale smaller than that of state or national government or big industry.

FE believe that the renewable energy sector must and will grow, and their commitment is to helping it grow at the small and medium scale, in ways that are relevant and accessible to communities. They believe the Australian government has to date not led the way in climate change policy and has left a lot of people wanting:

I really think that government has misjudged the extent of public frustration with the lack of activity ... under-estimated it ... there is a real, strong depth of public feeling amongst an awful lot of people out there that things really should be happening. (Key Organiser 2009: 13)

FE draws inspiration from the European experience in establishing renewable energy in which “communities have been a major force driving the introduction of windfarms in particular”, and see that there is much potential for this model to work in Australia (Key Organiser 2009: 1). To attract community interest in windfarm development, FE talks at local forums whenever possible in an attempt to reach out to people and “spread the word about what is possible and how it can work ... and just encourage people to get behind the movement!” (2009: 6). For FE the importance of community involvement is in providing a means for people to engage in climate change issues, to grow sustainability through increased engagement in energy issues, to provide a revenue stream flowing back to the community (that can help fund other sustainability projects) and that the community can have ownership or part-ownership over the project (FE n.d. b: 1). As the Key Organiser (2009: 2) commented:

it’s a way of broadening the interest, broadening the involvement. Communities can own part of the facility and feel good about it, but it can also encourage communities to go on and think about other things that they can do.

FE’s commitment to working with communities is reflected in comments that emerged from the HEP interview. HEP Key Organiser B (2009: 4-5) noted that the time and

energy commitments of FE staff have gone beyond what was expected and that their “input and commitment has been outstanding”.

The key role that FE play is in helping groups such as HEP to navigate the complexities of establishing a windfarm, as the Key Organiser (2009: 11) comments:

As soon as you get into power generation, you get into the complexity of grid connection, regulations, retailers – it almost just becomes too overwhelming, which of course it the role that we fill. We take care of all that for the community groups. Our business model with the community is that we’ll fund all that. And as and when they order the turbines and construction actually starts, then they’ll pay us back and they’ll pay us a development fee, which is ... our profit on 3 or 4 years of work.

In developing windfarms, FE’s work is mostly in the assessment and approval process. In the case of HEP, FE performed the site assessment and the environmental and social impact assessments. FE also has a role in facilitating share sales on behalf of the community group they are working with. FE’s ability and willingness to shoulder all the financial risk for projects throughout the development stage is also crucial and was an important element in making HEP viable (HEP Key Organiser A: 5). Once approved, FE sells the project to the community, as with HEP, or to an energy retailer, like Origin Energy. In some cases FE also retains shares in the project to contribute to their on-going financial viability. For FE the smallest windfarm development is considered to be 2 turbines, like HEP, and medium ranging up to 20 turbines. See Table 4.8 below for a summary of Future Energy’s economic activities.

Table 4.8: Summary of Future Energy’s diverse economic activities.

TRANSACTIONS	LABOUR	ENTERPRISE
<p>MARKET</p> <ul style="list-style-type: none"> - Contracts: FE’s wind & solar farm development services - Sale: once a development is complete is it sold to a community or other buyer. 	<p>WAGE</p> <ul style="list-style-type: none"> - Wage: paid FE staff perform development planning and approval tasks. 	<p>CAPITALIST</p> <ul style="list-style-type: none"> - Capitalist companies: energy retailers such as Origin Energy.
<p>ALTERNATIVE MARKET</p> <ul style="list-style-type: none"> - Financial risk: FE covers all financial risks & costs throughout development phase. 	<p>ALTERNATIVE PAID</p>	<p>ALTERNATIVE CAPITALIST</p> <ul style="list-style-type: none"> - Alternative capitalist company: FE is driven by social and environmental ethics.
<p>NON-MARKET</p> <ul style="list-style-type: none"> - Gift-giving: FE often gives free talks. 	<p>UNPAID</p> <ul style="list-style-type: none"> - Volunteer: FE staff contribution of volunteer hours to community projects. 	<p>NON-CAPITALIST</p>

Although they are committed to community level renewable energy projects, FE sees the government policy and mainstream market mechanisms as the key drivers of the climate governance. As the Key Organiser (2009: 9) commented:

In this [renewable energy] industry it’s important to recognise, as in many others, government legislation and regulation is so important. It sets the framework in which other things happen. If they put the right policy in place, things happen. If they put the wrong policies in place, things don’t. Again, this renewable energy target legislation – 20% by 2020 – will create certainty.

FE firmly believes that once the legislation is in place, “everyone will get on with working within the new framework” and the transition to renewable energy will occur because “you won’t be able to resist the market forces” (created by policy mechanisms such as the renewable energy certificates) (Key Organiser 2009: 12). In this sense, there seems to be a disconnect between how FE thinks change happens (at a government level) and how they are going about making change (at community level), not that one scale of action necessarily precludes the other, it simply raises the question of whether or not they see community projects, such as HEP, as having the potential for climate governance.

Conclusion

The seven case studies explored in this chapter are indicative of the range of local level responses to climate change around issues of energy in Australia at present. As can be seen, groups vary in structure, size and core focus and employ a range of economic practices to meet their goals and ethical commitments. The case studies demonstrate that innovative ways of responding to climate change offer a fertile ground for analysing the contribution of diverse economic practices to climate governance. They also enable an analysis of the role of local level responses in and of themselves, as well as in relation to other scales of climate governance. The descriptions above indicate that points of divergence exist between the case studies around understandings of climate problem and what constitutes appropriate and effective solutions. These points will be explored in the next chapter.

Chapter Five

Analysis

Introduction

The seven case studies discussed in the previous chapter demonstrate and reinforce the claim that new actors and scales are indeed emerging within the climate governance context, necessitating broader concepts of climate governance and a rethinking of traditional ideas about actors and authority (Bulkeley and Betsill 2003; Bulkeley and Moser 2007; Jagers and Striiple 2003; Liverman 2004; Okereke 2008; Okereke et al. 2009). What these ‘new’ actors, with their innovative projects and practices, offer a world grappling with the challenges of climate change, as Hopkins (2008:14-15) describes, is “a powerful carbon reduction ‘technology’ and a new way of looking at responding to climate change”. The descriptions of the seven local case studies provided in the previous chapter offer a vast landscape of diversity: from different structures, projects and economic practices to a multiplicity of ethical motivations. For each of the case studies, different ideas emerged about the causes of climate change and around power, authority and how change happens. The way these different ideas inform the case studies’ different approaches to climate governance will be explored in this chapter.

I have analysed the findings from the case studies into two major themes, local level responses and the diverse economy, relating back to the first two research objectives:

1. To develop understandings of the contribution of **local level responses** to climate change governance.

2. To reveal how local initiatives use the **diverse economy** to develop what they see as an effective and ethical response to climate change.

Sub-themes exist within each of the two main themes, reflecting important concepts and issues that arose from my contact with the case study groups. The ethical commitments held by groups are explored throughout each of the two major themes, relating to the third research objective:

3. To identify the range of environmental, social and economic **ethical commitments** that are interwoven with local responses to climate change.

This chapter focuses on each of the two themes (and related sub-themes), drawing on case study snap-shots to illustrate the findings of the research.

5.1 Local level responses

The descriptions of each case study in the previous chapter gave an overview of the diversity of local responses to climate change around renewable energy. These diverse responses seem to stem from different ideas about the role of local level responses in relation to other scales of climate governance as well as being informed by each case studies' divergent views on the causes of climate change and the nature of power, authority and change in society.

The range of local level responses

This thesis focuses on local level climate responses only in the area of energy and yet the case studies address this through diverse means: from energy-efficiency initiatives, to energy education to providing sources of renewable energy. Their activities also include the lobbying efforts of Climate Action Newcastle, the awareness-raising workshops of Sustainable Living Armidale, the free training offered by Sydney Energy Cooperative,

the long-term planning for regional sustainability undertaken by New England Sustainability Strategy, the establishment of Australia's first community-owned windfarm established by Hepburn Community Wind Cooperative's and so on. Of the two alternative capitalist companies, three not-for-profit associations and two cooperatives that participated in the research, six were involved in solar power projects and two were involved in establishing windfarms. Together these groups contributed thousands of solar panels installed on rooftops and the first community-owned wind turbines in Australia, demonstrating the powerful role that the local level can play in helping transition Australia's currently coal-reliant electricity production to renewable sources.

Definitions of 'local' also varied among groups. Sometimes 'local' referred to a local government area (as with Sustainable Living Armidale and Hepburn Community Wind Cooperative), other times to a region (as with the New England Sustainability Strategy and Climate Action Newcastle), and at other times it was an overarching ethic informing how and with whom case studies work (as with the Rainbow Power Company, Future Energy and Sydney Energy Cooperative). For the businesses (the Rainbow Power Company and Future Energy), local was also used, to some degree, to refer to their small size. As explored in the next section, case studies also demonstrated a range of ideas on the causes of climate change, with implications for how they understood the role of the local level in effective climate governance.

Case study views on the causes of climate change

Views on the root causes of climate change inform the way that case studies respond to the climate problem. Bulkeley and Moser (2007: 5-6) recognise a connection between

“certain definitions of the [climate] problem” and the emergence “certain types of solutions”. As an example, they point to the international climate regime and its focus international negotiations and national implementation within which climate change is defined as a greenhouse gas emission problem that can be best controlled through regulating large-scale emitters via market mechanisms (Bulkeley and Moser 2007:5). This view of the cause and solution to climate change obscures other potential solutions such as changing individual behaviour or looking at land-use and land-clearing practices. For case studies in this research, understandings of the causes of climate change congregate around two key analyses of the climate problem: what I characterise as a cultural analysis (where the emphasis is on the role of cultural norms) and a political-economy analysis (where the emphasis is on the role of and relationship between governments, and large and powerful industries). As I go on to discuss, different ways of framing the root causes of the climate problem leads each of the case studies to focus on a different range of ethical concerns and a different range of possible solutions.

a) *Cultural Analysis of the climate problem*

For the New England Sustainability Strategy (NESS) climate change and other environmental issues are a result of unsustainability stemming from a culture of ‘disconnection’. NESS sees being unsustainable as a “function of being disconnected from what’s going on with the planet, from each other and disconnected from, indeed, our inner self” and that sustainability, then, is “all about interconnectivity and connection” (NESS Key Organiser 2009: 6). In its climate response role, NESS therefore positions itself “as an organisation and as a process” as “a connector and a linker” (Key Organiser 2009: 6). This context of connectivity this leads NESS to understand that:

If we aren't culturally well, if we're not economically viable, the planet will suffer. If the planet is well but culturally we're fragmented and dysfunctional, we're not going to be sustainable. If we all get along great and the planet is looking good but we've got no economic driver to feed and employ and resource ourselves, then it's only a matter of time before we're in trouble. (Key Organiser 2009: 3)

Balancing this holistic sense of sustainability, has informed NESS' structure. The NESS executive has a diverse composition to reflect what they see as the seven facets of sustainability (social, youth, environment, economic, government, indigenous and global). Their holistic understanding of sustainability also informs their approach. They use methods that are inclusive, democratic and grassroots to encourage and maximise broad involvement and engaging in diverse projects; and they collaborate with many types of stakeholders. NESS's focus on sustainability has meant that nothing short of a holistic sustainability strategy will address their understanding of the root causes of climate change.

For Sustainable Living Armidale (SLA) climate change is a problem of being a fossil-fuel-based, consumer culture that idolises infinite economic growth (so much so that we are living beyond the planet's means). SLA's underlying belief that the root causes of climate change are embedded within the cultural norms of capitalist modernisation leads them to contemplate the 'heart and soul' of climate change. As Key Organiser B (2009: 3) explained: "it's about the idea that you won't be able to make effective changes if you haven't faced change within yourself, and looked at your own fears and tendencies to act in a habitual way". In looking into the 'heart and soul' of climate change they acknowledge the deep personal and cultural transitions that underlie behavioural and social transitions. In this sense SLA extends the local focus through to the underlying

ethic of how one personally relates to climate change and how this then informs collective actions. For example, the energy sub-group of SLA are not only building renewable energy options in the community but they are also encouraging people to relate to the concept of energy in a new way. For them, it is imperative that people grasp the concept of embedded energy and try to cut down on energy consumption in a holistic way before choosing to purchase solar panels. Key Organiser A (2009: 8) explains that:

We're also interested in the indirect energy savings that everyone can contribute to by not wasting food, by processing things locally, by sharing produce and skills ... these types of things tie into energy saving in the longer term, just as they tie into all sorts of other sustainability issues.

In this way SLA is encouraging people to rethink naturalised ways of relating to the world and to link all of their behaviours to a changed culture of sustainability. For SLA, then, addressing climate change means redefining one's cultural orientation through "refusing a long-standing sense of self and mode of being in the world, while simultaneously cultivating new forms of sociability, visions of happiness, and economic capacities" (Colectivo Situaciones 2004 in Gibson-Graham 2006 a: xxxv).

b) *Political-economy analysis of the climate problem.*

The Rainbow Power Company (RPC), Future Energy (FE) and Climate Action Newcastle (CAN) offer very clear political-economy analyses of the root cause of climate change. For all three, climate change is seen as an on-going problem of poor government policy and a strong alignment of government policy with the interests of polluting industries with economic clout, such as the coal industry. In talking about the federal government's proposed Carbon Pollution Reduction Scheme the RPC Key Organiser commented (2009: 3), "but they're [the government] all trying to bow down to those [coal and nuclear] industries to make sure that they remain profitable ... the whole

scheme, the whole way that the planet is run is basically wrong”. Similarly, CAN (Key Organiser 2009: 7) notes that the government’s lack of strong climate policy is “because of all the heavy lobbying etc. from big industry”.

The political-economy analysis of the climate problem became all the more clear in the way case studies framed climate solutions. FE (2009: 9), for example, believe that legislation and use of neoliberal market mechanisms are the solutions to climate change, based on the concept that: “If they [the federal government] put the right policy in place, things happen. If they put the wrong policies in place, things don’t”. For them, the government is the key actor, and it’s simply a matter of time before they implement effective climate policy. The RPC’s political-economy analysis is a little less trusting of government, concluding:

Governments, unfortunately are in the pockets of the corporations and vice versa to the extent that it’s very hard to tell the difference between the head of a corporation and a government minister, they’re exactly the same people and on about the same things. (RPC Key Organiser 2009: 7)

Their approach, therefore, is to largely disengage from the political process and rather establish a business that provides people with practical, climate friendly ways of living, such as with renewable energy. CAN’s political-economy analysis of the causes of climate change leads them to encourage everyone to “become political activists” (CAN Key Organiser A 2009: 7). According to their analysis, “the community is the answer to climate change; government will only ever follow what community want” (CAN Key Organiser A 2009: 6). Effective climate policy, therefore, is a political battle between what ‘the people’ want and what the opposition, being “big industry and government”, want (CAN Key Organiser A 2009: 6).

In two case studies, the Sydney Energy Cooperative (SEC) and the Hepburn Community Wind Cooperative (HEP), no clear understanding of the causes of climate change came through. Also, not all case studies who understood the root causes of climate change in similar ways (either in cultural or political-economy terms) approached climate change responses in similar ways, as demonstrated by the differences between the New England Sustainability Strategy and Sustainable Living Armidale and among Climate Action Newcastle, Future Energy and the Rainbow Power Company (and summarised in Table 5.1 below). This suggests that the relationship between understandings of the causes of climate change and associated solutions is not as straight forward as Bulkeley and Moser (2007) suggest and that other factors are informing actors' definition and delivery of climate governance.

In their paper, Bulkeley and Moser (2007: 5-6) suggest a link between "certain definitions of the [climate] problem" and "certain types of solutions". What Bulkeley and Moser (2007) have not analysed is how understandings of the root causes of the climate problem are co-implicated with understandings of social and political change (and concomitantly, power and authority). While both Bulkeley and Moser (2007) and Okereke et al. (2009) recognise that new climate governance actors operating at multiple scales are challenging traditional concepts of power and authority in the governance of global environmental issues, neither explore the causal links between non-state actors' climate governance approaches, their definitions of the climate problem and their understanding of social and political change (and sites of power and authority).

Table 5.1: Summary of case studies' views on the causes of climate change and role of local level actors in social and political change.

Case study	Root cause of climate change	Role of local level actors in how change happens	What change is needed to effectively address climate change?
Sustainable Living Armidale (SLA)	Cultural.	The local level is important in & of itself; local change can affect change elsewhere.	New ways of relating to the environment & each other.
New England Sustainability Strategy (NESS)	Cultural.	The local level is important in & of itself; local change can affect change elsewhere.	An ethic of regional connection & collaboration for sustainability.
Hepburn Community Wind Cooperative (HEP)	(Not clear)	The local level is important in & of itself; local change can affect change elsewhere.	New ways for communities to act on climate change through tangible projects.
Rainbow Power Company (RPC)	Political Economy.	The local level is important in & of itself; local change can affect change elsewhere.	New ways of doing business; providing renewable energy technologies & education.
Sydney Energy Cooperative (SEC)	Political Economy.	The local level is important in & of itself; local change can affect change elsewhere.	New ways of doing business; providing renewable energy technologies & education.
Climate Action Newcastle (CAN)	Political Economy.	Local level action is important as a means to something else.	Strong government policy; strong social movements holding governments accountable.
Future Energy (FE)	Political Economy.	Local level action is an outcome of something else	Strong government policy; effective market mechanisms.

Through this case study research, it became clear that understandings of the role that the local level plays in social and political change (along with understandings of the causes of climate change) are central to the sorts of solutions that are being developed. Thinking about how social and political change happens is inherently underpinned by understandings of the distribution of power and authority across the climate governance landscape (Okereke et al. 2009). Case studies are re-negotiating dominant views of power and authority within climate governance through shifting the focus from international agreements and nation-state actors to local level actors. In what follows, I discuss the three different understandings of the role of the local in social and political change that emerged: that local level responses are important in and of themselves; that

they are a vehicle for something else; and, that they are an outcome of something else (as summarised in Table 5.1 above).

How change happens: the role of local level responses in creating change

Seeing local responses to climate change as important in and of themselves was a common assertion among five of the case studies (Sydney Energy Cooperative the Rainbow Power Company, the Hepburn Community Wind Cooperative, Sustainable Living Armidale and the New England Sustainability Strategy). Although this meant different things to each group and although no group claimed that local level responses were singularly going to solve climate change, these case studies did prioritise local activities over an interaction with national or international climate governance in developing their responses to climate change. In contrast, Climate Action Newcastle saw local level climate responses as an important vehicle for achieving something else. In their case, ‘something else’ was building the social movement around climate change in order to exert pressure on the national government to implement strong climate policy. Different again, Future Energy saw local level responses to climate change as an outcome of something else, namely good government policy and effective market mechanisms in which the role of the local is in its potential to aid policy implementation.

a) Local level responses are important in and of themselves

As mentioned above, five of the case studies identify that local level responses are important in and of themselves. For Sustainable Living Armidale (SLA) and the New England Sustainability Strategy (NESS) the importance of the local scale of climate responses is linked with their cultural understanding of the climate problem (explored above). This leads SLA to see the local as being important in its potential for people to

redefine the way they relate to climate change as individuals and as a local collective. For them, projects at a local level are beneficial not only because they can change the way people live (e.g. how they source food and energy) but also because “local action on local issues helps people believe in possibilities and gives them a base for working on wider issues [other than energy]” (SLA Key Organiser A 2009: 9). For NESS, the local is a crucial scale through which sustainability can be achieved by building connectivity and new ways of living and interacting. For Sydney Energy Cooperative (SEC) and the Rainbow Power Company (RPC) acting at a local level is important for it allows them to work with local people to devise locally relevant renewable energy solutions and renewable energy education. SEC explains the benefits of the local scale of climate responses, saying:

[with] community members and community groups working together ... there can be more trust and a sense that they are doing things just for the right reasons ... I think the best things are that things happen more quickly, more efficiently and more community based. (SEC Key Organiser 2009: 6)

I cannot speak to each of the five case studies at length, however, in the section that follows the Hepburn Community Wind Cooperative (HEP) is used to provide an in-depth example of the ideas that emerged around this sub-theme of the importance of local responses in and of themselves.

Although no clear ideas around the cause of the climate problem came through, the Hepburn Community Wind Cooperative (HEP) certainly have strong ideas on what change is needed to address climate change and how this change can happen. HEP is a firm believer that local level responses to climate change are important in and of themselves for several reasons. In initiating HEP organisers were motivated by a desire

to take action where they felt government was lagging in their response to climate change. As Key Organiser C (2009: 3) explained: “a lot of people really want to do something and there is frustration that government is not doing much at all at the moment”. They felt there was a need to fill a gap that currently exists in Australia between possible individual and government level responses to climate change: for HEP the solution is tangible action on climate change at a local level. Key Organiser C (2009: 2) further explains:

lots of people want to do something but it's not clear what you can do ... There's a grab of 10 or 20 things you can do (changing light bulbs, changing commuting patterns, solar panels, etc.), but once you've done that, then what? So you've got people doing things down at the one-kilowatt end of the spectrum, and we are hoping that governments or industry are going to be building big 100-megawatt facilities. But what's in the middle? ... What's left is a level for communities, and there have been very few options. A very strong driving influence for me is that we are developing a model for this country that other communities will be able to take ... they'll have a way of engaging in what's, you know, a very complex issue.

Recognising the government's lack of leadership in addressing climate change and their inability to provide a means through which communities can participate in this necessary process, HEP advocates a role for autonomous local renewable energy projects in climate governance. HEP draws inspiration from other local people's collective efforts to successfully establish wind cooperatives, such as those throughout Europe and the UK. For HEP, the local, 'community' level is a powerful locus of change, building on people's strong will to act through tangible projects that aid the transition to a low-carbon society. Here the aim is not to influence outside decision makers, but to engage local people as actors in climate governance through the collective effort needed to establish a

community-owned windfarm. The local level, thus, is a means for achieving emissions reductions independently and for engaging people in practical climate projects as well as being a site of climate governance innovation that can help other local people do similar things in the future.

b) Local level responses are important as a vehicle for something else

Climate Action Newcastle (CAN) approach climate governance in quite a different way. For CAN, the role of local level actors is to garner strong support in order to effect strong climate governance at a national level. Here, power resides in people and in mass mobilisation for a cause. This power can effect climate governance, but CAN see national and international level of climate policy as the ultimate target of local responses. Key Organiser B (2009: 7) demonstrates this view, saying: “It’s going to be the government of the day who can really change things. Rudd has got to be held accountable for what he promised at the election”. For example, in order to achieve their goal of holding government accountable and getting them to implement strong climate policy, CAN is engaged in the Climate Action Network Australia (CANA) (Key Organiser A, 2009: 6), which is part of the international Climate Action Network lobby. Okereke et al. (2009: 65) point out that the international Climate Action Network plays an important role in communicating between communities and international level climate governance processes and act as a means to build local climate action groups’ voice, influence and legitimacy within the global climate governance context. Okereke et al. (2009: 65) use the Climate Action Network as an example of an actor that validates the “multiple and relational nature of power” present in the climate change governance landscape, by recognising power as residing outside the nation state even within the arena of the international climate regime, which is dominated by nation-states.

c) Local level responses occur as an outcome of something else

Future Energy (FE) have yet another perspective on the role of the local level in climate governance. FE firmly believe that change will be led by federal government through the use of appropriate policy and economic processes of supply and demand in capitalist markets (with aid of carbon taxes, carbon trading, etc.). For them, the transition to renewable energy in Australia will occur within already established systems of economy and be led by industry. The Key Organiser (2009: 11) believes: “It’s just proven that if you seek to change public behaviour and infrastructure long term you use market mechanisms to do so”. The role of the local, then, is to implement the changes planned by government, albeit in various ways according to actors’ individual interests and capacities. FE’s ideas on the locus of change, therefore, are aligned with the international climate regime approach elaborated on in the literature review chapter, and intrinsically require local, industry, national and international climate governance efforts to be aligned under a common policy framework. Here, power and authority remain solidly with the sovereign state.

Despite the differences mentioned above all of the case study groups identify with the unique potential offered by the local scale. Recognition of the enormity of the climate problem, the depth of responses required and the “grindingly slow” pace of national and international climate governance negotiations (Bulkeley and Moser 2007: 1) has led case studies to believe that the local level has a unique role to play in leading the way and taking strong action on climate change. While case studies do not all see the role of local level actors in the same way, as a group the case studies powerfully demonstrate what

climate governance can look like when conceptualised in a more diverse and distributed way.

Embedded within case studies' local responses to climate change is an exploration and expansion of concepts of power and authority within the climate governance context, reflected through their varied ideas on the role of local level actors in making change. In developing their climate response strategies initiatives have had to wrestle with the questions: Who are the actors that drive change? How is transformative power distributed and negotiated? How does change happen? Each of the case studies has unique ideas on these elements of change and the role of the local therein, as explored above. Exploring these questions has ultimately meant negotiating relationships between the local, national and international scales of climate governance.

Some case studies position themselves within broader social movements for change (like SLA with Transition Towns), and others try to find a place within the national and international climate regimes (like FE or CAN with the Climate Action Network). Some groups have a very strong 'do-it-yourself' approach (like HEP) while others are focused on the national climate policy context, either through lobbying or working collaboratively within it. Divergent approaches come back to fundamentally different ideas about the locus of change:

- Will community action lead the way and open up a broader range of possible climate change responses through their use of innovative structures and diverse economic practices?

OR

- Will change largely flow from changes in government policy and mainstream market mechanisms?

In reality, both are happening at once. While groups might focus on one or the other locus of change, they recognise that both are important to a coherent, holistic and effective climate change governance framework. Bulkeley and Moser (2007: 5) and Hopkins (2008: 76) draw our attention to the fact that given climate change is such a complex and multi-faceted issue, it *requires* diverse and multi-scalar responses in order to be effectively addressed. Effective processes of governing for climate protection, therefore, will “involve actors across this (state/non-state) binary in defining the problem, setting policy agendas and implementing action” (Bulkeley and Moser, 2007: 3). Hopkins (2008: 76), also points out, however, that “we don’t need to wait for (international climate agreements), indeed, successful national and international responses are all the more likely in an environment where community responses are abundant and vibrant”. The culmination of these many ideas around the locus of change, power and authority points to the fact that the realities of climate governance might best be thought about as a web of state and non-state actors operating on many levels.

Relating scales: a web of climate governance

The analysis of case studies reveals the various ways in which the local scale of climate governance is positioned in relation to other scales, such as the national and international, and lends strength to the arguments of Bulkeley and Moser (2007) and Okereke et al. (2009) that climate governance is in reality delivered by a ‘web’ of state and non-state actors operative across many scales, in which the local plays a significant role. The many different ways in which case studies relate to the federal government’s former \$8,000 solar panel rebate under the Solar Homes and Communities Program offer a means of exploring this web of climate governance and the contributions of the local level within this web.

For the federal government, this scheme was a means of achieving the renewable energy targets under the Mandatory Renewable Energy Target policy (as mentioned previously). Local groups that ran solar panel installation projects (Rainbow Power Company, Sustainable Living Armidale, New England Sustainability Strategy, Climate Action Newcastle, Sydney Energy Cooperative and Future Energy) contributed to the effective implementation of this policy, bringing their unique networking, outreach, organising and technical capacities to help facilitate uptake of the rebate.

The case studies, however, perform this role on their own terms in order to meet their own climate governance goals. For example, the motivation for Climate Action Newcastle (CAN) in delivering the ‘Newcastle’s Going Solar’ bulk solar panel installation project was in its potential for community outreach. Relating to CAN’s ideas that the local level is a means to achieve other climate governance goals (explored above), their solar panel installation project was about transforming what is normally a purely individual act (of installing solar panels on your roof) into climate change awareness and networks with the potential for future engagement in climate issues. Indeed, as one CAN Key Organiser (2009: 7) explained, “things don’t just happen at election times, it’s about building a social movement that takes away the licence of government and industry to do what ever they want – so they are forced to change”. So for CAN, the end goal of the project is building a strong local lobby to hold the government accountable and push for strong national climate policies.

For New England Sustainability Strategy (NESS), delivering the Solar New England Region Project (SNERPy) fitted in with their ideas of sustainability and connectivity

(explored above), and hence, the project was about growing connections and credibility within the local area by delivering an effective practical project. Here the aim was to build the legitimacy of NESS and sustainability issues generally in the minds of the local people, as well as to build local renewable energy installation and maintenance capacities. Different again are Sydney Energy Cooperative's (SEC) motivations. For them, these installations generate revenue, which can then be put towards not-for-profit projects, such as free energy efficiency retrofitting for low-income households.

Because installing solar panels under the federal government's former rebate was an important element of many groups' activities, many case studies commented on the effect of the rebate on the burgeoning solar industry and the effect of withdrawing it, as well as perspectives on the incoming Renewable Energy Certificates (RECs) scheme. For example, both Climate Action Newcastle (CAN) and the New England Sustainability Strategy (NESS) noted an increase in solar panel retailers and installers in their localities over the past 18 months. The NESS Key Organiser (2009: 7) commented, "turning off that rebate with no succession strategy ready to go is bad, we've lost hundreds of employees from the industry and bucket-loads of momentum". In terms of the effect of the rebate on the general public, the Rainbow Power Company (RPC) has noted a sharp increase in the uptake of the rebate over the last 18 months, with the Key Organiser commenting that the government policy has had a considerable effect in shifting public attitudes to renewable energy:

Lots of people think that solar power is just a little bit of a toy, you know, to get real power you have to get power produced by coal or nuclear or something ... but I think it's starting to change now. Particularly with the huge uptake of the solar rebate in the last couple of years, I've never seen so many solar systems put up ever before. (Key Organiser, 2009: 2)

He went on to explain his disappointment with the recent government decision to cut the rebate offer short and expressed concern for the incoming replacement Renewable Energy Certificates (RECs) scheme. He believes the new policy will have a detrimental impact on clientele and on the carbon reductions of solar installations:

we're going to lose a lot of the really ethical people. You know, the people who want to put solar on their roof because they feel that we drastically need to reduce our green house gas emissions ... because if they really do their sums they'll find out that using the (renewable energy certificates) doesn't really add up ... if you really want to make an impact then you shouldn't sell them ... because if you sell them then you're basically selling someone else the licence to produce more pollution.

(Key Organiser 2009: 5)

As mentioned in the description, Sydney Energy Cooperative (SEC) has similar concerns to these and hence has decided to cease installing solar panels under the RECs scheme (whereas, the RPC will continue to install solar panels under the RECs scheme).

When we unpack the ways in which this federal government policy is being implemented on the ground, we find a complex web of climate governance relations at play. As Bulkeley and Moser (2007: 2) suggest, these relations act to blur traditional concepts of the state being the sole site of power and authority over setting policy goals and delivering policy implementation. By pushing our concepts of climate governance beyond the conceptual hierarchy of international level agreements that are then implemented by nation states, who then dictate policy to sub-national actors, what is revealed is the local level's contribution to climate governance.

As mentioned in the methodology chapter, the aim of this research is not to definitively understand the ways in which the local scale is impacting on and relating to other scales

of climate change governance. The aim is rather to tell the diverse stories of possibility that exist within the local climate case studies included in this research, with the hope that these might broaden mainstream ways of conceiving and enacting climate governance.

5.2 The diverse Economy

This research has found that initiatives are using the diverse economy in all sorts of ways to achieve their goals. It has also found that groups driven by many social and environmental ethics are devising ways to generate ‘ethical’ funding streams to then be able to fund other important sustainability projects. Innovative economic practices seem to grow from the negotiated tensions between ethics, group structure and economic needs. These findings reinforce Okereke et al’s (2009: 63) conclusions in “Conceptualising Climate Governance Beyond the International Regime” where they found that the “proliferation of different governing arrangements and initiatives for the urban governance of climate change lies largely outside of an approach based on [capitalist] market mechanisms”. Case studies in this research reflect this claim in their use of a wide range of diverse economic transactions, ways of remunerating labour and different enterprise types.

The diversity of economic practice

The various transaction, labour and enterprise types used by case studies demonstrate the scope of economic options available in responding to climate change. The diverse range of transactions occurring within and between case study groups is shown in column one of Table 5.2. Household solar panel installations under the federal government’s former

\$8,000 solar rebate was a major activity for four of the seven (the Rainbow Power Company (PRC), the New England Sustainability Strategy (NESS), Climate Action Newcastle (CAN) and the Sydney Energy Cooperative (SEC)) case studies; these projects offer a good display of diverse economic transactions. As mentioned previously, the availability of the government rebate enabled the expansion of household solar energy production by supporting the burgeoning market through a rebate system. All four groups purchased solar panels from wholesale capitalist markets in bulk and the cost benefits of bulk buying were passed on to ‘consumers’. In the case of NESS and CAN, household solar installations occurred in an assisted market where NESS and CAN had pre-arranged a contract with a solar panel installer, gathered all relevant information and publicised the group bulk installation project. Gift-giving is a non-market transaction used by all four groups. Both CAN and NESS provided solar panel installation and rebate information, advice and organising free of charge and so it can be considered a gift to people wishing to install solar panels. For SEC installing solar panels as part of such projects offers the opportunity to gift free training to those wishing to learn more about solar power. The RPC ‘give’ free workshops on living with solar power. For NESS, SEC and CAN doing solar panel installation projects provided opportunities to raise funds to go to future climate and sustainability projects or to be donated to other groups with similar aims. As the SEC Key Organiser (2009: 3) explains: “When we’ve been able to give donations to other things [e.g. SEC activities that cost money] it’s because of the solar installations. They’re 99% of the income generation”.

Labour arrangements (see Table 5.2 column two) used by case study groups were mostly combinations of waged labour or unpaid volunteer labour (see column two of Table 5.2) with very few alternative paid labour arrangements surfacing. The Rainbow Power

Company (RPC) and Future Energy (FE) are the only two groups in which *all* staff are paid. The Hepburn Community Wind Cooperative (HEP) and the solar project of the New England Sustainability Strategy (NESS) each have one paid organising position that acts to support the rest of the group's volunteer-run activities. For the Sydney Energy Cooperative (SEC) members of the cooperative are either paid staff or unpaid volunteers depending on the nature of the activity and their personal financial circumstances. As the SEC Key Organiser (2009: 5) described: "People take on paid work if they need the money, or else we do other coop activities that don't earn money". Volunteer labour was an element of all groups to varying degrees, with the exception of the Rainbow Power Company (RPC). Sustainable Living Armidale (SLA) and Climate Action Newcastle (CAN) rely entirely on volunteer labour. The RPC has devised interesting systems of alternative paid labour according to their specific ethical commitments and goals; this is discussed in more detail below.

Three types of enterprise structures are found within the case studies: alternative capitalist companies, the Rainbow Power Company (RPC) and Future Energy (FE); cooperatives, the Hepburn Community Wind Cooperative (HEP) and the Sydney Energy Cooperative (SEC); and not-for-profit associations, Sustainable Living Armidale (SLA), the New England Sustainability Strategy (NESS) and Climate Action Newcastle (CAN) (see column three of Table 5.2). As is evident in the description chapter, RPC and FE are considered 'alternative' capitalist companies because both are driven by commitments to environmental and social benefit over profitability. Some case studies identify as being somewhere in between, for example, the RPC has consciously included elements of a cooperative into its company structure. As we will see in the next section, enterprise structures chosen by groups reflect their ethical commitments and, as mentioned in the

previous section, these choices relate to ideas around how change happens and what changes are needed to effectively address climate change. Although none of the case studies themselves are capitalist enterprises, they do interact with capitalist companies, such as energy retailers and wholesalers of renewable energy technologies.

Table 5.2 A summary of the diverse economic activities of the case studies.

TRANSACTIONS	LABOUR	ENTERPRISE
<p>MARKET</p> <ul style="list-style-type: none"> - Wholesale markets: bulk buying renewable energy technologies (solar; wind) [RPC, SEC, HEP]. - Contracts: to install solar panels [RPC, NESS, CAN, SEC]; to develop windfarm [HEP, FE]. - Sales: of renewable energy technology [RPC, SEC] - Purchase: of electricity from energy retailer [HEP]. 	<p>WAGE</p> <ul style="list-style-type: none"> - Wage: people paid as installers, coordinators, directors and other tasks [RPC, NESS, SEC, HEP, FE]. 	<p>CAPITALIST</p> <ul style="list-style-type: none"> - Capitalist companies: energy retailers such as Energy Australia.
<p>ALTERNATIVE MARKET</p> <ul style="list-style-type: none"> - Assisted market: discounted solar panel installations to households as organised by NESS, CAN and SEC. - Rebate: former federal government \$8,000 Solar rebate. - Differentiated share offer: cheaper minimum shares for local people [HEP]. - Grants: to help establish projects [NESS, SLA, HEP]. - Discounts: for members on bulk goods [SEC]. - Also: barter, aid work and covering of financial risk by one for another. 	<p>ALTERNATIVE LABOUR</p> <ul style="list-style-type: none"> - Pay equity: equal pay for all workers [RPC]. - Tool allowance [RPC]. - Fuel allowance [RPC]. 	<p>ALTERNATIVE CAPITALIST</p> <ul style="list-style-type: none"> - Alternative capitalist companies [RPC, FE].
<p>NON-MARKET</p> <ul style="list-style-type: none"> - Gift giving: free training, energy audits, consulting, workshops, talks, etc. [RPC, SLA, NESS, CAN, SEC, FE]. - Funds/foundations: pool of money kept by groups to fund future projects [SLA, NESS, CAN, SEC, HEP]. - Donations: to other climate or sustainability groups [CAN, SEC, HEP]. 	<p>UNPAID</p> <ul style="list-style-type: none"> - Volunteer: administration, organising and running free workshops, training, consulting, etc. [SLA, NESS, CAN, SEC, HEP] 	<p>NON-CAPITALIST</p> <ul style="list-style-type: none"> - Cooperative [SEC, HEP]. - Not-for-profit association [SLA, NESS, CAN].

How economic practices reflect ethical commitments

As discussed in the literature review chapter, the diverse economy framework, however, is not just about diversity, it is also about how the diverse economic practices fit within

and are a product of being shaped by a range of ethical commitments. The environmental, social and economic ethical commitments all play a part in driving unique economic practices. Examples from the Sydney Energy Cooperative (SEC), the Rainbow Power Company (RPC) and the Hepburn Community Wind Cooperative (HEP) will be used to demonstrate how case studies are negotiating the tensions between ethical commitments and economic practice around transactions, labour and enterprise structure.

As a cooperative committed to environmental benefit rather than profit, Sydney Energy Cooperative (SEC) has decided to invest earnings made from ‘commercial’ ventures (such as doing household solar panel installations, mentioned above) into other, more unusual projects. The Key Organiser (2009: 3) describes this unconventional approach to economics: “We don’t do projects because they’re profitable, we look at what we want to do based on ethics and our own personal interests, and see how we can do it”. The more unusual projects include gift-giving of free energy audits to low-income households, free energy audit training and free energy-related consulting. Even though they are delivered by volunteer labour, such projects still cost the cooperative money, which is funded through the retained pool of ‘profits’ from doing solar panel installations. This side of the cooperative’s activities are driven by a desire to ‘fill a gap’ and provide innovative services that would not be done by your average business, “because they’d see it as a waste of time and money” (Key Organiser 2009: 5). The Key Organiser (2009: 5) further explains this work ethic:

If I think that I’m providing some service to the environmental movement or even if it’s not a political or social thing ... if I think that’s useful, then I’ll just do it and you don’t get paid for that because you can’t. The economic practice there came from personal priorities of wanting to do that ‘cause it’s helpful.

SEC's approach, of course, has its downfall in that after a while they "hit that other problem of when the money runs out" (Key Organiser 2009: 3), and must again find a means of income generation that fits within their ethical framework.

The Rainbow Power Company (RPC) is a for-profit company similar to any other business at first glance. Look a little deeper, however, and find that a commitment to social equity and participatory democracy have led RPC to build elements of a cooperative into their company structure, because "cooperatives just feel better than most companies do" (RPC Key Organiser 2009: 3). For example, workers made aware of and participate in decision-making, are encouraged to be shareholders and shareholders are considered favourably when applying for work with the RPC. The RPC's concern for environmental benefit and care for their staff has also led them to develop some unique labour practices. For example, they have instituted pay equity, at a wage level higher than average, throughout the whole business, from director to office staff to labourers and engineers.

The RPC Key Organiser (2009: 6) recognises that "unfortunately it's very hard for a business to be truly ethical, because the guiding principle of a business is to be able to pay dividends to its share-holders, and paying dividends has nothing to do with environment or ethics at all." The RPC have negotiated this tension by including layers of ethical decision making within their business structure so that environmental and social ethics are maintained: through making decisions regarding what they sell at what price, how they install, how their office runs, how decisions are made and what people are paid, before thinking about the distribution of profits. The Key Organiser (2009:5) explains: "we don't want to make enormous profit. That just defeats the purpose. We

want to make enough profit to make us viable”, and for the RPC ‘viable’ is considered as “enough profits to keep financially healthy, stay independent, maintain the philosophy, aims and objectives and pay workers ... better than average” (Pedals 1995: 5). In their business practices, then, the RPC is finding ways to “put less emphasis on money and more emphasis on environment” and placing the business guideline of shareholder dividends in a position of “lesser importance than the need for business to be truly environmental” (RPC Key Organiser 2009: 7). In reality the RPC has only paid dividends to share holders on three of 22 years of business, reflecting their commitment to social and environmental ethics before economic profitability.

The Hepburn Community Wind Cooperative (HEP) have also embodied this aspiration in establishing the Community Sustainability Fund and prioritising annual financial contributions to the fund over shareholder returns. As well, HEP’s focus from the start has been developing a hands-on energy project as “a means of engagement for communities” on climate change issues (Key Organiser C 2009: 2). Facilitating “wide-scale” and “authentic” community control in the process of developing and running the windfarm project has been a key motivating ethic for HEP (Key Organiser C 2009: 2). Tensions arose as HEP became aware of the economic need to attract some large investments from outside the community. As Key Organiser C (2009: 6) explained, “the concept of being community controlled was very important and we knew that people outside the community would want to invest, and ... that we needed to take money from outside investors”. HEP had to grapple with the question of “how do you retain community ownership at the same time as, perhaps, providing only a minority of the capital required”. In the end, of course, HEP addressed these concerns via a cooperative legal structure in which one member has one vote, regardless of how many shares he or

she owns. Key Organiser C (2009: 6) expressed that “a cooperative ... sets everyone’s mind at rest, really, that this is not a corporate project, it’s a community project”. In order to ensure majority local ownership, HEP decided on a differentiated share offer, where the minimum share price for locals was \$100 compared with \$1000 for non-locals.

Conclusion

The case studies included in this research reveal the ways in which climate governance is being claimed and practiced by local groups of people. It is increasingly recognised in the literature that local level, non-state actors increasingly play a role in both defining and delivering climate governance (Bulkeley and Betsill 2003; Bulkeley and Moser 2007; Diesendorf 2009; Hamilton 2007; Jagers and Striiple 2003; Liverman 2004; Okereke et al. 2009); the case studies included in this thesis also demonstrate this. In their structures, projects and practices the seven case studies demonstrate the ways in which defining and delivering climate governance is a result of actors’ ideas on the causes of climate change, what change is needed to address climate change effectively and how this change will come about. As local level actors in climate governance, the case studies included in this research all value the local level as an important scale of climate governance, though, as shown above, this is for different reasons. Case studies in this research also exhibit a range of diverse economic transactions, labour arrangements and enterprise types that can be employed to respond to climate change in ways that uphold ethical commitments.

Chapter 6

Conclusion

The context for this Honours thesis is an acknowledgement of climate change as a global problem in need of rapid and effective solutions. This fact is now widely recognised, however, the processes of international climate governance are proving to be "grindingly slow" (Bulkeley and Moser 2007: 1), as well as being a limiting and misleading means of defining climate governance. As Bulkeley and Moser (2007: 1) identify:

In the absence of more effective international action, and cognizant of the big task ahead, alternative attempts at climate change governance and social action have emerged. These approaches recognise that international agreements - if implemented - provide only a partial means through which the mitigation of climate change can be directed, and in turn are reliant on actions in a variety of arenas and at different scales to be effectively implemented.

This thesis has explored the role of the local level in climate change governance and found evidence to support Jagers and Striiple's (2003: 388) claim that climate governance encompasses "all purposeful mechanisms and measures aimed at steering social systems toward preventing, mitigating or adapting to the risks posed by climate change". The alternative attempts at climate governance covered in this research have been a range of local level not-for-profit associations, cooperatives and alternative businesses involved in energy related activities.

6.1 Significance of the project

On a practical level this research has contributed to general understandings of possible pathways to effective climate action at a local level. It has done this through creating

more detailed understandings of local renewable energy initiatives and the economic structures and tools that support them as a climate change responses in Australia. It has also analysed the role of the local level within multi-scalar approaches to climate governance and demonstrated the ways in which multiple ethical commitments can be met while also responding to climate change.

Conceptually this thesis extends the diverse economy analysis to a new setting of climate change responses. It also extends Bulkeley and Moser's (2007) analysis that certain definitions of the climate change problem result in certain types of responses by demonstrating the ways that these ideas also interconnect with understandings of social and political change (and associated ideas of power and authority).

The significance of this thesis also lies in its findings in relation to each of the four research objectives.

Local Responses

The first object of this research was to “develop understandings of the contribution of local level responses to climate change governance”. Throughout this thesis there is evidence of the ways in which local case studies are negotiating the tensions between global climate governance and local action. Case studies are bravely suspending for a moment the common belief that nation-states, industry and international level agreements are the only actors in climate governance and seeing what possibilities open up in this space. Their projects reveal that not only is local level action on climate change important in and of itself, but it also contributes to achieving and implementing other climate governance policies (in collaboration with other actors and levels of governance,

such as federal government). The content of this thesis, then, reinforces Jagers and Stripple (2003: 394) claim that:

the various ways of responding to the risks of climate change [are] extending vertically - on political levels ranging from local to global - as well as horizontally, in segments of society far beyond the core environmental ones. It is becoming more and more visible that authority over the deterioration of the atmosphere resides in multiple locations.

Inherently, the local initiatives included in this research affirm the importance of local level actors and their many ways of contributing to climate governance.

Diverse Economy

The second research objective was to “reveal how local initiatives use the diverse economy to develop what they see as an effective and ethical response to climate change”. In pulling back the curtain of mainstream capitalist market-based responses and ‘reading’ local initiatives for economic difference, we find a multitude of economic tools being used by case studies in their various responses to climate change. Through their different transactions, labour arrangements and enterprise structures, the case studies demonstrate the definite potential in conceptualising ‘the economy’ as a tool and approaching economic practice with creativity and inquisitiveness. With such an approach, groups are able to devise innovative economic solutions that truly fit with their material and ethical goals.

Ethical Commitments

To “identify the range of environmental, social and economic ethical commitments that are interwoven with local responses to climate change” was the third research objective. This objective was explored through analysing the contribution of groups’ ethical

commitments in shaping their structures, processes, projects and economic practices. Case studies demonstrated a range of social commitments (e.g. social justice, participatory decision-making, pay-equity), economic commitments (e.g. not-for-profit, financial accessibility of renewable energy technologies, passing on bulk-buy prices), and environmental commitments (e.g. acting on climate change as well as broader issues of environmental sustainability). In investigating this objective, it was found that the local level climate responses covered in this thesis add strength to Bulkeley and Moser's (2007: 4) claim that climate governance offers an opportunity to act on several issues, commitments and ethics at once. The local case studies reveal this in their attempts to find ways of responding to climate change that are consistent with broader ideas for sustainable development. In many cases, climate responses are seen as an opportunity to 'reinvent' society, with people designing approaches and projects as a means to simultaneously act on layers of environmental, social and economic ethical commitments. Often, this is a result of their concern for climate change being underpinned by broader concerns for sustainable development.

Research methods

In terms of project conduct, this research has aimed to generate a space for case study initiatives to articulate and reflect on their ethics, practices and projects. In devoting academic inquiry to this field of study, it is hoped that this thesis can contribute to strengthening the visibility and legitimacy of local level and diverse economic responses to climate change. It is through these means that the fourth research objective of "using research methods that are of mutual benefit to researcher and case study groups" has been addressed.

6.2 Change starts by creating possibilities for difference that are visible and tactile

As explored in the methodology chapter, this thesis is informed by a performative understanding of knowledge. The ‘performativity of knowledge’, as explicated by Gibson-Graham, explores the role of academia in creating, building and ‘performing’ new economic realities, through bringing the “marginalized, hidden and alternative economic activities to light in order to make them more real and more credible as objects of policy and activism” (Gibson-Graham, 2008: 613). In this way, diverse economic practices that lie outside of dominant constructions of the economy become “more present as everyday realities that touch all of our lives and dynamically shape our futures”: they become visible and tactile (Gibson-Graham, 2008: 618). Within this thesis, the performativity of knowledge approach has been applied in both the analysis and portrayal of the diverse economy and the contributions of the local level to climate governance.

The diverse economy and the performativity of knowledge

This thesis has followed Gibson-Graham’s (2006 a: xxi) understanding of the role of diverse economy research, where the project is to “venture along the obscure byways of non-capitalist construction, encouraging projects of economic experimentation, adding to the repertoire of what (is) considered legitimate political action” and thereby “increasing our space of decision and room to move as political subjects” (Gibson-Graham 2006 a: xxx). Intriguingly, while the case studies in this thesis clearly demonstrate that they are practicing diverse economy approaches, they do not necessarily recognise them as such: people are interacting with diverse economic practices, but don’t have the language to identify or talk about the diverse economy. For example, despite their unique and innovative approach, when asked about how the company operates economically, the

Rainbow Power Company Key Organiser (2009: 5) replied: “Well it’s just a business really ... It’s all just run of the mill economics that we use”. Similarly, the Sydney Energy Cooperative (2009: 1) Key Organiser commented, “I don’t know that (our structures) would vary much from ordinary business”, after explaining that decisions are made by workers based on environmental and social ethical commitments. It can be seen, then, that the lack of a diverse economy discourse and the discursive dominance of the economy as capitalist, are factors currently limiting our ability to identify the role that a diverse economy approach can offer the climate governance context.

For Gibson-Graham (2006 b: x), creating new economic possibilities involves developing a new economic politics around three key concepts: language, the subject and collective action. These can be understood as: new ways of talking about, expressing and giving meaning to economic activity; new ways of relating to economy as subjects in diverse economic terrains; and new ways of collectively engaging with and creating new economic possibilities.

Although all case studies demonstrate that they are somewhat unknowingly participating as subjects in new economic realities and engaged in collective action to create new economic practices, what is yet to be developed is a language that can act to link and perform these new realities to enliven them as alternate ways of being in the world. Without a language of diverse economy, the possibilities these practices offer to an ontological reframing of what economy is may slip away. A new language of economy “brings into being the great variety of non-capitalist practices that languish on the margins of economic representation” (Gibson-Graham 2006 b: xxxii). Once visible, these practices become viable as objects of political experimentation and as elements

within our ‘toolkit’ of climate responses. This thesis is an attempt to build a recognition of and language for diverse economic practices within the climate response context.

Local level responses and the performativity of knowledge

Parallel to the tendency of some case studies to underplay their economic innovation, some also underplay their political contribution as local level actors in climate governance. Some case studies referred to a feeling that ‘real’ climate action happened ‘out there’: at the level of nation states, large industry and international agreements. This feeling seemed to come from the enormity and weight of climate change and recognition of the role of the larger networks and spheres of influence that are embodied in large industry, states and international agreements. As Key Organiser A from Sustainable Living Armidale (2009: 10) commented: “the reality is that we are a very long way from having much influence on the people who spend a lot of dollars and make the decisions”. Similarly, the Rainbow Power Company Key Organiser (2009: 3) commented:

the whole scheme, the whole way that the planet is run is basically wrong, but there’s not very much I can do about it other than write about it or do talks about it. It’s too big a game for me personally to be able to do anything about it.

As alluded to earlier, this research is not an attempt to discount the crucial role that other actors and scales play and will continue to play. It is an attempt to document and give more form to local climate initiatives within our conceptions of what constitutes effective climate governance, thereby ‘performing’ them as legitimate elements in the mosaic of responses that will lead us to a safe and just world.

The case studies included in this research are powerful examples of the possibility of local climate responses. Together they represent a diverse landscape of climate

governance innovation, with vast potential to inspire action within other local groups as well as lead the way to territories of new policy for government. Through giving voice to local level climate initiatives within an academic context, it is hoped that this research can help to expand the legitimacy and understandings of the local scale of climate governance.

6.3 New territory for government policy

Governments of all scales need to institute policy that acts to encourage and support local people's desires and efforts to take meaningful action on climate change, such as those of the case studies included in this thesis. Oels (2006 in Okereke et al. 2009) believes that good government policy on climate change "mobilizes actors in the business sector, the non-profit sector and governments at all levels to engage in 'partnerships' to contribute in their own ways to mitigating climate change, thereby turning climate change into a matter of concern and responsibility for all these actors". In the context of this research, this can be understood as policy that builds on the strengths and diversity of climate governance as a web of state and non-state actors operating at multiple levels. Bulkeley and Moser (2007: 6) believe that there is definite potential for "local initiatives in emission reductions [to] produce policy innovation and leadership". Through their projects and practices, the case studies in this thesis offer many valuable tools and approaches, both to other local climate response initiatives as well as to other scales of climate governance. Several recommendations for federal government policy have emerged from this research, particularly around policies that could help to foster the establishment of community-owned wind farms.

Supporting the establishment of community-owned windfarms

Community-owned windfarms are a wiser investment over roof top solar (photovoltaic) installations in many ways, as the Future Energy (FE) Key Organiser (2009:5) explains: “A wind turbine owned by the community generates twice as much power for half the price of roof-top solar”. Key Organiser B (2009: 12) from Hepburn Community Wind Cooperative (HEP) also explained: “ [a windfarm] project like the one we’re doing, the embodied energy – I’m not talking about volunteer hours, rather the production process – will be paid back in 3-6 months. The embodied in energy in solar roof top system will take 3-5 years to pay back”. For these reasons I have focused policy recommendations on wind, rather than roof top solar.

Both Future Energy (FE) and Hepburn Community Wind Cooperative (HEP) identified a role for government in helping to fund the initial set-up costs of community-owned windfarms. As they explain, the upfront costs of a windfarm are huge (buying and erecting the turbines), but once established, they generate electricity for their 20-year life and the sale of electricity generates income (FE Key Organiser 2009: 8), thus constituting a “good stable investment” (FE Key Organiser 2009: 2). FE (2009: 11) suggests that the government could institute a rotating fund to contribute to the start up costs of community-owned windfarms. The fund could act as an interest free or low interest loan that groups repay as and when the farm starts to generate income, over a defined period of time. As the FE Key Organiser (2009: 11) explains:

That money would go round and round and round ... an investment of say 10-20 million by a state government might be enough to get 10 community wind farms established. And each year they could do a couple more out of the revenue that’s coming back from all the others.

A policy instituting such a fund would operate in a similar way and with a similar sentiment to the funds and foundations case studies have developed (summarised in row three, column one of Table 5.2, p. 97), such as the Community Sustainability Fund of the HEP. Thus the policy would embody the opportunities of a diverse economy approach to climate governance. Such a policy approach would build links between national and local scales of climate governance, helping to meet national renewable energy targets while still enabling local actors to engage on their own terms, according to their ethical commitments.

Lack of good government policy and support is also a barrier for windfarms in other ways. Connecting a new windfarm to the electricity grid is often a practical and financial barrier. Because the current electricity grid is built around a few big coal-fired power stations, connecting wind (or solar) farms in geographically dispersed locations can be difficult and require new investments of infrastructure. The FE Key Organiser (2009: 7) identifies a disconnect within existing Victorian state government policy here: “the state government policy says ‘we want more wind farms’ but there isn’t a bit of state policy that figures out how to connect them to the grid”. A federal government policy of supporting community-owned windfarms and funding grid connections would help overcome this barrier. Such a policy would also employ the diverse economy as a tool of climate governance through ‘gifting’ grid connection to community-owned windfarms.

Future research possibilities

There are several areas that warrant further research attention in order to deepen our understanding of the role and contribution of local level responses to climate change.

Potential contribution of community-owned renewable energy to rural regeneration

In a context of increasing urban migration and drought, finding new sources of income for rural communities in ways that are also environmentally responsible offers opportunities to contribute to rural vitality and regeneration. Many parts of Australia have vast capacity for renewable energy generation. As the Future Energy Key Organiser (2009: 3) commented:

If you think about rural communities that may struggle in terms of conventional economies, for survival almost for some of them, but if they have the right renewable resources nearby, there is actually a real opportunity to make the community sustainable, and much better, simply because of the income you can generate. It does a whole bunch of things for a community, but it certainly helps the overall economy.

Researching these potentials and the contribution of diverse economic practices in aiding community financial benefit (as has been the case with the cooperative model of the Hepburn Community Wind Cooperative) is an important area of future research.

Research to support community-owned windfarms

There is also a definite role for further research that would support the establishment of local climate response initiatives, especially windfarms. For example, this could involve working with initiatives such as the Hepburn Community Wind Cooperative with their desire to establish a model that will enable more local residents' groups to set up windfarms faster than what they have been able to (Key Organiser C 2009: 9). Further research could also involve investigating forms of government policy that could support such projects (such as those mentioned above), and those policies which are currently barriers to such projects. It could also look to international examples of community-

owned windfarms (such as those in Denmark) for learnings that can be applied to the Australian context.

Monitoring the Renewable Energy Certificates (RECs) scheme

Given the concerns over the Renewable Energy Certificates (RECs) scheme expressed by both case studies and academics (Diesendorf 2009; Hodder, 2008; Spratt 2009; Spratt and Lawson 2008), future research will be needed to assess the scheme's implementation and effectiveness. In particular, it will be important to know how the scheme affects the burgeoning solar industry and the solar uptake by local level initiatives, such as those of Climate Action Newcastle and the New England Sustainability Strategy. Equally important is monitoring and evaluating how the RECs scheme contributes to real greenhouse gas emission reductions, given concerns over its multiplied allocation of RECs to small scale renewable energy installers, and the potential, therefore, for Australia to appear to have met the Mandatory Renewable Energy Target before it really has (as explored earlier in the thesis).

A closing note

What all the case studies demonstrate, and what brings me joy and hope, is the overwhelming will to act on climate change that is present at the local level and the incredible commitment to making positive change. People are yearning for individual and collective ways to meaningfully address climate change, and they are working together, devising ways to respond that are relevant to them.

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Appendices

Appendix 1: Information Statement and Consent Form for Organisations

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INFORMATION STATEMENT for ORGANISATIONS for the Research Project:

Local Responses to Climate Change: using the diverse economy to meet energy needs

Jarra Hicks (Student researcher)
Jenny Cameron (Research Supervisor)
Document Version 01; Dated 05/05/2009

Your organisation is invited to participate in the research project identified above which is being conducted by Jarra Hicks from the School of Environmental and Life Sciences at the University of Newcastle. The research is part of Jarra's Honours Research, supervised by Associate Professor Jenny Cameron.

Why is the research being done?

The purpose of this research is to develop understandings of ways that local groups are responding to climate change. It is particularly looking at renewable energy initiatives. The project includes a focus on the ethical commitments that guide groups, and the diverse economic approaches that groups use.

Who can participate in the research?

We have invited your organisation to participate because:

- it is established, controlled and run by local people;
- it is involved in projects that have a focus of renewable energy initiatives at a local level;
- it has climate change as a motivating factor;
- it uses a range of economic practices.

Specifically, we are seeking to interview:

- Key Organisers (eg. Convener, Board Members), and
- General Members.

Interview participants must be over the age of 18.

What choice do you have?

As a Senior Person in the organisation, we are asking your consent for the organisation to be involved in this project. Participation in the research is entirely your choice. Only organisations who give their informed consent will be included in the project. Whether or not you decide to participate, your decision will not disadvantage your organisation. There will be no repercussions if you decide not to participate.

What would you be asked to do?

As a Senior Person, we ask that you consent for your organisation to participate in the research and for its Key Organisers (e.g. Board Members) and General Members to be approached for involvement in this project.

If you agree to participate, you will need to nominate a Contact Person (with their consent) to be the liaison point between the researcher and the organisation (this can be yourself or someone else).

The Contact Person will be asked to distribute invitations to others in the organisation who might be interested in participating in this research, to help confirm a venue for interviews and to forward relevant documentation to the student researcher. The Contact Person will also be asked to be available for one or two 30-minute telephone interviews for the purpose of clarifying information on the group and its projects. The Contact Person can also be an interview participant if they choose.

Interview participants will be asked to contribute to a group interview with others from your organisation. If there is only one interested participant, an individual interview will be used. The discussion group/interview will be conducted at your organisation's office or in a nearby public place (e.g. Public Library). In the interview, participants will be asked to share their views and experiences on the organisation's structure, projects, goals, founding principles, driving motivations, etc. and on local responses to climate change.

How much time will it take?

It is estimated that interviews will last approximately 1-1.5 hours. They will be conducted at a time that suits participants.

What are the risks and benefits of participating?

There are no foreseeable risks to participating in this research.

The project is designed to allow a space for the members of the organisation to talk about the project and reflect on motivations, ethics and visions. It is intended that this be a positive process that will help organisations critically reflect on what they do. We hope that four other organisations will participate in this project. We will provide a summary of research findings that may also help your organisation.

How will your organisation be identified?

We are asking for your consent for your organisation's name to appear in the research. Individual participants will not be identifiable by name, only general position titles of "General Member" or "Key Organisers" will be used, but they will be identified as belonging to your organisation.

How will the information collected be used?

The information gathered in this research project will initially be used in Jarra Hicks' Honours Thesis. It is hoped that the information will also be developed for the benefit of the wider community, particularly organisations similar to your own. This might take the

form of articles or conference papers. All participants will be provided with a summary of the results at the conclusion of the project.

What do you need to do to participate?

Please read this Information Statement and be sure that you understand its contents before you consent for your organisation to participate. If there is anything you do not understand, or you have questions, please contact the researcher.

If you are happy to proceed, please complete the attached consent form and mail or email it to Jarra Hicks (details below).

Further information

If you have any questions concerning this research project, or would like any further information, please do not hesitate to contact Associate Professor Jenny Cameron:

Thank you for considering this invitation.

Jarra Hicks
Student researcher
Jarra.Hicks@studentmail.newcastle.edu.au
0466 310 626
C/O Associate Professor Jenny Cameron
Discipline of Geography and Environmental Studies
Social Science Building
University of Newcastle
CALLAGHAN NSW 2308

Dr Jenny Cameron
Research Supervisor
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(02) 4921 5095

Complaints about this research:

This project has been approved by the University's Human Research Ethics Committee, Approval No. H-2009-0134.

Should you have concerns about your rights as a participant in this research, or you have a complaint about the manner in which the research is conducted, it may be given to the researcher, or, if an independent person is preferred, to:

The Human Research Ethics Officer
Research Office, The Chancellery
The University of Newcastle
University Drive
Callaghan NSW 2308
Telephone (02) 49216333
Email Human-Ethics@newcastle.edu.au.

Associate Professor Jenny Cameron
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**Consent from ORGANISATIONS
for the Research Project:**

**Local Responses to Climate Change: using the diverse economy to meet energy
needs**

Jarra Hicks (Student researcher)
Jenny Cameron (Research Supervisor)
Document Version 01; Dated 05/05/2009

Following the phone discussion with Jarra Hicks, and in accordance with the attached Information Statement, I agree to allow Key Organisers (eg. Convener, Board Members) and General Members from my organisation (details below) to be approached to participate in the above research project.

I agree to be the contact person for the organisation or to nominate another person to act as the contact person for the organisation.

I understand that the interviews will be carried out in accordance with the Information Statement (attached) and that the name of the organisation will be used in the research project.

I agree that participation or non-participation by Key Organisers and General Members is entirely their decision, and that they will not be disadvantaged in any way if they decide not to participate.

Print Name: _____

Organisation: _____

Position within Organisation: _____

Contact Details: (Ph) _____

(Email / mail) _____

Signature: _____ Date: _____

Please provide me with an electronic copy of the full Honours Thesis (you will automatically be supplied with a summary of the results)

Nominated Contact Person (if other than yourself): _____

Contact Person Contact Details: (Ph) _____

(Email / mail) _____

Appendix 2: Information Statement and Consent Form for Individuals

Associate Professor Jenny Cameron
School of Environmental and Life Sciences
Faculty of Science and Information Technology
University of Newcastle
CALLAGHAN NSW 2308
Phone: (02) 4921 5095
Email: Jenny.Cameron@newcastle.edu.au



INFORMATION STATEMENT for INDIVIDUALS for the Research Project:

Local Responses to Climate Change: using the diverse economy to meet energy needs

Jarra Hicks (Student researcher)
Jenny Cameron (Research Supervisor)
Document Version 01; Dated 05/05/2009

You are invited to participate in the research project identified above which is being conducted by Jarra Hicks from the School of Environmental and Life Sciences at the University of Newcastle. The research is part of Jarra's Honours Research, supervised by Associate Professor Jenny Cameron.

Why is the research being done?

The purpose of this research is to understand ways that local groups are responding to climate change at a local level. It is particularly looking at renewable energy initiatives. The project includes a focus on the ethical commitments that guide groups, and the diverse economic approaches that groups use.

Who can participate in the research?

We have invited you to participate because you are involved in an organisation that:

- is established, controlled and run by local people;
- is involved in projects that have a focus on renewable energy initiatives at a local level;
- has climate change as a motivating factor;
- uses a range of economic practices.

Specifically, we are seeking to interview the following people from within the organisation:

- Key Organisers (e.g. Board members, Convener), and
- General Members.

Interview participants must be over the age of 18.

What choice do you have?

Participation in the research is entirely your choice. Only people who give their informed consent will be included in the project. Whether or not you decide to participate, your

decision will not disadvantage you. There will be no repercussions if you decide not to participate.

You also have the option of receiving a copy of transcript from your individual interview or your component of the group interview so you can edit or erase your contribution. You will be given two weeks to edit or erase your contribution and return the document to the Student Researcher.

What would you be asked to do?

Participants will be asked to contribute to a group interview with others from your organisation. If you are the only interested participant, then you will participate in an individual interview. The group or individual interview will be conducted at your organisation's office or in a nearby public place (e.g. Public Library).

The interviews will be audio taped and partially transcribed.

In this interview you will be asked to share your views and experiences on the organisation's structure, projects, goals, founding principles, driving motivations, etc. and on local responses to climate change more generally.

To help you prepare for the interview we will provide a copy of the Interview Schedule for you to read over beforehand. You will need to feel comfortable discussing the interview questions, either in an individual or group interview.

How much time will it take?

The interview will last approximately 1-1.5 hours. This will be conducted at a time that suits participants.

What are the risks and benefits of participating?

There are no foreseeable risks to participating in this research.

The project is designed to allow a space for the members of the organisation to talk about the project and reflect on motivations, ethics and visions. It is intended that this be a positive process that will help organisations critically reflect on what they do. We hope that four other organisations will participate in this project. We will provide a summary of research findings that may also help your organisation.

How will your privacy be protected?

You will not be identified by name, only general position titles of "Key Organising Member" or "General Member" will be used. However, you will be identified as belonging to your organisation. Your name will not be included on any stored data files. These files will be stored securely and only accessed by the researchers. The collected information will be stored for a minimum of 5 years at the University of Newcastle, Callaghan, NSW.

How will the information collected be used?

The information gathered in this research project will initially be used in Jarra Hicks' Honours Thesis. It is hoped that the information will also be developed for the benefit of the wider community, particularly organisations similar to your own. This might take the form of articles or conference papers. All participants will be provided with a summary of the results at the conclusion of the project. You also have the option of receiving a complete electronic copy of the thesis.

What do you need to do to participate?

Please read this Information Statement and be sure that you understand its contents before you consent to participate. If there is anything you do not understand, or you have questions, contact the student researcher, Jarra Hicks, on 0466-310-626 or Jarra.Hicks@studentmail.newcastle.edu.au.

If you wish to participate in the research please contact the student researcher, Jarra Hicks, on 0466-310-626 or Jarra.Hicks@studentmail.newcastle.edu.au. When you contact Jarra she will talk with you about a suitable time for the group or individual interview.

Further information

If you have any questions concerning this research project, or would like any further information, please do not hesitate to contact Associate Professor Jenny Cameron:

Thank you for considering this invitation.

Jarra Hicks
Student researcher
Jarra.Hicks@studentmail.newcastle.edu.au
0466-310-626
C/O Dr Jenny Cameron
Discipline of Geography and Environmental Studies
Building SRR
University of Newcastle
CALLAGHAN NSW 2308

Dr Jenny Cameron
Research Supervisor
Jenny.Cameron@newcastle.edu.au
(02) 4921 5095

Complaints about this research:

This project has been approved by the University's Human Research Ethics Committee, Approval No. H-2009-0134.

Should you have concerns about your rights as a participant in this research, or you have a complaint about the manner in which the research is conducted, it may be given to the researcher, or, if an independent person is preferred, to:

The Human Research Ethics Officer
Research Office, The Chancellery
The University of Newcastle
University Drive
Callaghan NSW 2308
Telephone (02) 49216333
Email Human-Ethics@newcastle.edu.au.

Associate Professor Jenny Cameron
School of Environmental and Life Sciences
Faculty of Science and Information Technology
University of Newcastle
CALLAGHAN NSW 2308
Phone: (02) 4921 5095
Email: Jenny.Cameron@newcastle.edu.au



**Consent from INDIVIDUALS
for the Research Project:**

**Local Responses to Climate Change: using the diverse economy to meet energy
needs**

Jarra Hicks (Student researcher)
Jenny Cameron (Research Supervisor)
Document Version 02; Dated 04/06/2009

I agree to participate in the above research project and give my consent freely.

I understand that the project will be conducted as described in the Information Statement, which I have read and understood, and a copy of which I have retained. I have had the opportunity to have questions answered to my satisfaction.

I understand I can withdraw from the project at any time and do not have to provide any reason for withdrawing.

I understand that my personal information will remain confidential to the researchers. I understand that I will not be referred to by name in the research but rather by a general position title such as "Key Organising Member" or "General Member".

I understand that I will participate in a group or individual interview that will be audio recorded and partially transcribed.

Please provide me with an electronic copy of the full Honours Thesis (you will automatically be supplied with a summary of the results).

Please provide a copy of the partial transcript so I can edit or erase my contribution. I understand that I will have two weeks to edit or erase my contribution and return the document to the Student Researcher.

Print Name: _____

Contact Details: (Ph) _____

(Email / mail) _____

Signature: _____

Date: _____

Appendix 3: Semi-structured Interview Indicative Questions

Interview Schedules:

Hello, as I'm sure you are all aware, my name is Jarra and I am an Honours student at the University of Newcastle, under the Supervision of Associate Professor Jenny Cameron. The purpose of this research is to understand ways that local groups are responding to climate change at a local level. The project includes a focus on the ethical commitments that guide groups, and the diverse economic approaches that groups use. Thank you for all being willing to participate in this research and making it possible.

Introduction

We might start by going around the group and saying our names as well our roles/involvement in the group.

Principles

I thought we'd start by looking at the principles (or motivations or ethics) that underpin what you're doing as a group.

- What were some of the founding principles/motivations/ethics of the group?
- Have these changed over time?

Organising and running the initiative

I have read about your group and what you're doing and spoken to your contact person about them, but I'd like to hear a bit more from you about how the group is organised and run.

- Can you tell me a bit about how the initiative is organised and run (Prompt: How are decisions made? How is the group structured?)
- How have your principles (or motivations or ethics) influenced how the group is organised and run?
- How has this changed over time?
- Have there been issues or challenges in how the group is organised and run?

Project

I've read and spoken to your contact person about the projects your initiative is running/developing. What I'd like to do is focus on XXXXX project.

- What are the aims of this project?
- What are the driving motivations/principles/ethics for doing a project like this, in this way?
- Why is this project/s this important for your group?
- How do you think this project fits with the motivations/ principles/ ethics of the group?

Economic Practices

What I'd like to do now is focus in on the economic practices of your initiative/ project.

- Can you tell me a bit about initiative/ project operates economically (Prompt: diverse economic practices e.g. unpaid volunteer work, gifting).
- Why are you using these sorts of economic practices?
- To what extent are these economic practices a reflection of the motivations/ principles/ ethics of the group?
- Have you experimented with other sorts of economic practices in the past, can you tell me a bit about these?

Bigger Picture

- How do you see your group fitting within broader action on Climate Change/ social and environmental change movements more generally?
- What do you see the role of local responses to be?
- Why do you think they are particularly important?