

Localizing climate change: Stepping up local climate action

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ABSTRACT

Purpose: The purpose of this paper is to explore the current literature and ideas on how local climate change action (both mitigation and adaptation) could be intensified.

Approach: A literature review on the current views of effective local climate action within academic journals and policy documents was undertaken. Additional data on Australian grassroots community activities was compiled from the Internet, participant observation and secondary sources.

Findings: The paper argues that local climate action is important and three key aspects could provide effective avenues to step-up local climate action. These three avenues are: increased attention to local adaptation; the linking of adaptation and mitigation efforts together and with other local ecological concerns; and greater engagement with active community members and grassroots community-initiated climate change actions. These three key aspects could give climate change a local saliency and tangibility, spur more effective action, build community resilience and reduce vulnerability.

Implications: Research is in the explorative stages and, therefore, only tentative conclusions and possible future directions can be suggested. Practical implications – The avenues identified to scale-up local action on climate change could be readily utilised by local governments and/or other interested groups. The paper disseminates three compelling ways that climate action could be intensified at the local scale, and possibly creates greater public engagement and avenues to innovative approaches to tackle climate change.

Keywords Australia, Climate Change, Community climate action, Social action

Introduction

Australia will be significantly affected by climate change (Hennessy et al., 2007; Garnaut, 2008). Although having a high mitigative capacity this has not been realised (Winkler et al., 2007), and Australians have the dubious title of being the highest OCED emitter of greenhouse gases (GHG) per capita (Department of Climate Change, 2008). Despite the inability to curb emissions, lofty targets have been set by Federal, State and Territory governments to reduce emission significantly by 2050. To meet such substantial targets concerted action will be required by all societal actors (community, government, business), and across all scales and domains.

This paper focuses on local-scale actions to combat the effects of climate change. The paper does not negate the importance of climate action on national and international scales, but seeks to examine the often over-looked scale of the local. This paper argues that local climate action is important and explores three key aspects that could provide effective avenues to step-up local climate action. These three avenues are:

- (1) Increased attention to climate change adaptation.
- (2) The linking of adaptation and mitigation efforts together and with other local ecological concerns.
- (3) Greater engagement with active community members and current community-initiated climate change actions.

The first two issues will be briefly outlined, while the final aspect of greater

engagement will be the main focus of this paper.

The importance of local climate action

Throughout the changing contours of the climate change debate, climate mitigation and, increasingly, adaptation, have been the primary responses to reduce the risks associated with anthropocentric climatic change. Although most-often discussed separately, ‘adaptation’ and ‘mitigation’ actions are both aimed at reducing climatic risks (Stehr and von Storch, 2005). ‘Mitigation’ has been defined multiple ways with the general theme being that mitigation constitutes all actions undertaken to reduce greenhouse gases in an effort to reduce the anthropogenic cause of climate change and, therefore, the magnitude of the impacts (Jones and Preston, 2006; Smit and Wandel, 2006). In contrast, climate change ‘adaptation’ consists of adjustments adopted to respond to the impacts of climatic change as they manifest (Jones and Preston, 2006; Smit and Wandel, 2006).

The local scale is important for two primary reasons. Firstly, GHG emissions originate from activities that occur in locales and, therefore, emission reduction practices occur in these locales (Agyeman et al., 1998; Bulkeley and Betsill, 2003; Aall et al., 2007). Secondly, adaptation action is highly localised as the Allen Group (consultants to the Federal Government) made clear in their 2005 report on climate change adaptation in Australia, “climate risk decisions will be made by the decentralised decision makers in the private sector, local government and by households” (Allen Consulting Group, 2005, p. xvi). This is due to many drivers of adaptation, such as geographical, political and social conditions differ from place to place and even within place (Duerden, 2004; Adger et al., 2005). Therefore, commentators point to cities, local authorities and communities as being key players in facilitating and/or coordinating climate action, and creating innovative locally suited responses (see for example, Bulkeley and Betsill, 2003; Aall et al., 2007; Linstroth and Bell, 2007).

Local scale climate change action has been problematic. An illustrative example of local problems is the widely implemented and researched, Cities for Climate Change Protection (CCP) initiative. Local authorities drive this initiative with nearly 190 local government councils involved in Australia (Department of the Environment Water Heritage and the Arts, 2008). However, while this program had spurred initial climate policy action, Bulkeley (2001) has found it relies on “no-regrets” measures, such as installing energy efficient public lighting, that are limited in their potential to reduce greenhouse gases once initial low-cost options have been adopted. Burton’s (2007) study of the South-East Queensland region has found many councils simply do not meet their own targets they have set under the program. Slocum’s (2004a, 2004b) research on CCPe has demonstrated this program’s alignment to, and reinforcement of the dominant market ideology. That has led councils to undertake ecological modernisation approaches such as energy efficiency, whilst also positioning the citizen as a passive and uninvolved consumer, resulting in minimal greenhouse gas reductions and an inability to create a focus for social mobilisation, which has been argued as being a key to respond to climate change effectively (Slocum, 2004b).

Therefore, the question that this paper addresses is “how can local action on climate change be intensified?” To respond to this question, the methodological approach employed has primarily involved an extensive literature review of Australian and

international academic journals and policy documents on the current views of effective local climate action. Additional data on Australian grassroots community activities has been compiled from the Internet, participant observation and secondary sources.

Stepping-up local action: a review

Emerging from the literature review were key themes on effective climate action at the local scale. These themes revolve around increased attention to local adaptation, integrated responses with other local ecological concerns and increased engagement. To step-up action, local climate change adaptation action is a key area for three reasons. The first reason is that adaptation action is considered more tangible than mitigation efforts at the local level and, therefore, easier to instigate. Secondly, local and inclusive approaches to adaptation actions, which facilitate and maintain networks, increase community resilience. Finally, and following on from the second point, inclusive adaptation actions has been found to increase stakeholder knowledge of climate change, as well as aid the willingness to accept and implement mitigation measures (see, Adger, 2003; Tompkins, 2005; Granberg and Elander, 2007; Wilbanks et al., 2007; Cutter et al., 2008).

The second point of integrating mitigation efforts with adaptation and other ecological issues has been another way perceived to step-up local action. Using this approach, potential synergies can be identified and capitalised on, or if synergies are not apparent, then individual actions should at least not impede each other (Klein et al., 2005; Wilbanks and Sathaye, 2007; Laukkonen et al., 2008). A prime example is the creation and enhancement of green spaces in urban areas, which reduce atmospheric levels of GHGs, adapt to increased summer temperatures by cooling urban areas, and provide ancillary benefits, such as protecting biodiversity (Shaw et al., 2007). Creating momentum for climate action at the local scale by linking climate change with other ecological concerns has been found effective in Mexico City, where climate objectives were linked with local air pollution concerns leading to enhanced action on GHG emission reductions (Romero Lankao, 2007). Additional suggested approaches include 'mainstreaming' climate action into existing policies, plans and decision-making across all sectors of society (for example, Klein et al., 2005, Kok and de Coninck, 2007). Another avenue widely cited is by focusing on sustainable development. Sustainable development is perceived as having the ability to reduce greenhouse gas emissions and decrease vulnerability by increasing resilience (IPCC, 2007).

Evident from the literature is a continual theme of the inclusion of non-traditional stakeholders and greater community engagement for effective climate action. Engagement, for the purposes of this paper, is more broadly interpreted to include not just inclusion in policy-making processes and actions but encompasses people "knowing, caring and being motivated and able to take action" on climate change (Lorenzoni et al., 2007, p. 446). Community engagement is cited as a way to handle the complexities associated with climate change, increase resilience, increase public understanding and facilitate action on climate change (Weaver et al., 2006; Granberg and Elander, 2007). Flannery (2006), Moser (2006) and Pearse (2007) all argue that civil society is critical for two important reasons:

- (1) To enact the extensive behavioural changes required.
- (2) To pressure additional societal actors for change.

Oels (2005) contends that since the 1990s, economic and technological solutions have been the main ways framed to respond to climate change. Claussen (2004) and Green (2008) are illustrative of this framing by advocating policy measures to develop and deploy low-carbon technologies and create market incentives for these technologies. However, due to the substantial emission reductions needed and the long-term nature of the action required, it is argued that transformations are required throughout the socio-economic system, with changes to lifestyle and attitudes a necessity (for example, see, Kok et al., 2002; Gonzalez, 2005; Shimada et al., 2007; Winkler et al., 2007; Fritze et al., 2009). Pivotal to such a transformation are transformed individuals and societal innovation.

The importance of local innovation and community engagement

How innovation arises, where from, and how it can be facilitated, are all key questions that continue to be explored in multiple disciplines (Fagerberg, 2004; Vasi, 2006). Local innovation for climate action is required due to the sheer scale of the challenge ahead. Fimm (n.d.) states that there is little research available on innovation at the local government level in Australia. Fimm does, however, cite research of Bringham (1976), which found that the community environment, the local government organisational environment and characteristics were highly important factors. In the community sphere, Seyfang and Smith (2007), p. 585), describe a form of “grassroots innovation” for sustainability, which they state to be different to top-down governmental and business innovation for sustainable development. The difference these authors argue is that these innovations are created and implemented within both the social and technological realm, and respond to local situations and values. A prime example they give is the social and environmental differences between Community Supported Agriculture (CSA) and supermarket organic products (Seyrang and Smith, 2007).

Seyrang and Smith (2007) claim the grassroots community sphere has been a neglected site of study for sustainability innovation. Kapoor (2007) is in agreement and states that these micro initiatives are often innovative and involve transformed individuals who can be key actors to aid social change. These initiatives relate to transformative practices for sustainability, as grassroots community action can potentially provide positive impacts on local sustainability through the transformation of consumption and production practices. This is in addition to these practices being cited as being able to provide, more meaningful local solutions than imposed top-down approaches, and demonstrations of alternative sustainable lifestyle practices (Kapoor, 2007; Seyrang and Smith, 2007; Smith, 2007). Currently, around Australia community-initiated grassroots climate change actions are emerging. These actions have taken multiple forms. Table I (over page) depicts a sample of some of the community initiatives currently occurring in Australia.

Explorative research into these active citizens and community-initiatives demonstrate a plethora of activities and approaches that are being undertaken to respond to the risks of climatic change. The potential of these community actions and the active community participants are two-fold; firstly, many of these citizens and groups are already active and are implementing behaviour changes consistent with holistic actions to respond to climate change. More broadly, however, these groups can be a source of inspiration for other citizens and groups concerned about climate change,

Category	Example	Description
Place-based individual initiative	Wollongong climate action network Parramatta climate action network	These are individual place-based approaches, which state to have arisen over concerns due to the predicted impacts of climate change and the lack of government response. The actions undertaken incorporate a variety of methods centred around: pressuring governments for greater action; and raising community awareness of the behaviour changes require. Increasingly emphasis is on working with all societal actors (government, business, community, households and individuals). Many of these place-based actions are also becoming part of larger climate action networks, such as Parramatta Climate Action Network is part of Climate Action Network Australia
Place-based networks	Transition towns movement	The Transition Towns Movement arose in the UK, but has been readily adopted in Australia by a number of active citizens and community groups. The stated aim is to harness the creative energy of community to respond to the issues of climate change and peak oil. The key action revolves around creating and facilitating the implementation of an energy decent action plan within a community defined local region. This plan is designed to reduced energy consumption, decrease greenhouse gas emission, while building local resilience. Emphasis is on re-localisation, permaculture, creating and maintaining networks with other transition initiatives and other community groups, broad community inclusion and creating positive future visions
Cyber-communities	Cool Melbourne CoolSchool	These on-line communities share resources, information and ideas on ways to address climate change. Newsletters are compiled and emailed out, in addition to websites being maintained. Events, actions and resources are all posted on the site to motivate people to get involved themselves and pressure government and other societal actors for greater action on climate change. Sites, such as “CoolSchool” targets a specific societal sphere by providing educational resources, including quizzes and student and teacher information
Alternative agriculture activity-oriented approaches	Guerrilla Gardening Permablitz	Urban agriculture and alternative agricultural systems are increasingly being tied to climate actions. Concerns over ‘food miles’ and the vulnerability of current industrial agriculture are the most often cited reasons. The two examples both seek to tackle climate change (among other ecological objectives). Guerrilla gardening tends to be an underground activity, and involves seeds and plants being planted in urban areas on public or private lands. Permablitz involve groups of people working on private properties, with the consent and help of the owner, to establish permacultural systems. Awareness rising of planned activities tends to be by word-of- mouth or the internet
Broad sustainability concerns	CERES Bendigo sustainability group	Long-term and more recently established sustainability initiatives have been incorporating climate change into the list of ecological concerns they seek to re-dress. Due to the diversity of sustainability initiatives undertaken around Australia multiple actions are currently underway or in-development and include actions such as sustainable social enterprises, community gardens, political activism, demonstrations of alternative lifestyle practices and sustainability research.

Table I. Sample of community-initiated climate change actions in Australia

and/or as a source innovative action for governments (especially local governments) to facilitate and learn from. Potential features of interest include the methods of communication, the organisational processes used, and actions/plans being advocated and/or undertaken by these community initiatives.

Communication has two key components of concern in this paper: (1) the message, and, (2) the mechanism of delivery. Moser has written extensively on communicating climate change and activating people (see, Moser and Dilling, 2004, 2007; Moser, 2006, 2007). Key themes are creating a positive message, sustaining the message, and matching the communicator to the relevant audience. Many of these community-initiated actions are conducting themselves in this way. The Transition Towns Movement communicates a creative community-owned process leading to a positive future vision (Hopkins, 2008; Brangwyn and Hopkins, 2008). To reach audience nearly all groups use a variety of mechanisms including; word-of-mouth, local media, other community events, and, especially, new on-line media. The use of the Internet creates the opportunity for information to be more than just one-way, as many web site contain blogs and other interactive features, in addition to YouTube postings. Furthermore, many groups post meeting minutes and hold on-line discussions to increase dissemination of information and transparency (see for example, Eco-bello, 2009). Increasing transparency is just one of the potentially beneficial organizational processes used by some of the grassroots actions. Additional techniques are attempts to reach out to and involve all groups in society, for example youth and the elderly (see, Bendigo Sustainability Group, 2009; Eco-bello, 2009; and Transition Towns WIKI, 2009). The networking processes employed are also of importance as the building of 'bridging ties' to other organisations are a feature that increases social capital, which is considered to aid adaptive capacity (Newman and Dale, 2005; Tompkins, 2005, for example of an international network structure see Hopkins and Lipman, 2008, for a regional structure see, SEAC (Sunshine Coast Energy Action Centre), 2009 and/or Transition Sydney, 2009). Furthermore, less-hierarchical networked organisational structures are cited to be more resilient than the current hierarchical structures that dominate industrial society (Comfort, 2005).

The actions and plans being undertaken are another interesting feature. Seyrang and Smith (2007) claim of innovative potential within the grassroots actions, from this exploratory research, could be supported. Actions such as urban agriculture have the possibility to increase vegetative cover in urban areas increasing climate change mitigation and adaption efforts. Also, some traditional groups are taking particularly holistic responses such as CERES. Such a holistic approach is also evident with the Transition Towns Movement with the advocating of sub-groups concerned with areas such as agriculture, education, transport, psychological transitions and energy within the energy decent action plan, which also incorporates issues such as peak oil (see, Sustainable Living Armidale, 2009; Transition Towns Hervey Bay, 2009).

Limitations are apparent and relate predominately to the nature of community actions and constraints on local authorities. Community action can have a downside of exclusion, burnout and threat of becoming 'coopted, institutionalised and neutralised' (Whelan and Lyons, 2005, p. 596, O'Toole, 2006). To avoid these potential pitfalls local governments could be conducive through the provision of resources, places and spaces. The provision of resources should not just be information on climate science, but also enabling information, such as information on grants and services available.

Places for meetings, workshops and spaces for activities could also be facilitated; for instance ease of access to unused or unproductive spaces for urban agriculture or alternative transportation options. Therefore, an overall aim of supporting not steering and learning not teaching could be most appropriate. In relation, to local authorities, what is framed as 'local' or under the local governments power to act, limits action capacity. Societal trends, such as over-consumption, the objective of continual economic growth, and ecological destructive policies from other sectors of society all demonstrate the desirability and necessity of an integrated response from all sectors of society, premised on a mixture of top-down and bottom-top approaches (Wilbanks and Sathaye, 2007; Biesbroek et al., 2008). Therefore, although these initiatives and ideas are promising it is not an excuse for lack of action from the top.

Conclusion

Climate change is one of the greatest challenges to sustainability. Intense effort across scales is required. At the local scale, attention to climate change adaptation, linking mitigation and adaptation with other local ecological concerns, in addition to making links with and aiding active citizens and community groups could all leverage the transition to a low-carbon and more sustainable future. Facilitating community action has the capacity to aid local authorities and other interested community members to possibly find innovative responses to climate change that fit local conditions. Furthermore, such an approach increases community engagement and education on the issue of climate change. To transition to a low-carbon future this approach has a number of benefits, but requires the possibly of embracing more radical approaches to responding to the risks associated with climate change than currently under consideration by most sectors of society.

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