Asset mapping and social innovation for low carbon communities

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ABSTRACT: *Low carbon community programs that encourage citizens to reduce their carbon emissions have been subject to various government and civil society trials in recent years. Behaviour change programs using 'social marketing' techniques have had mixed success in community carbon reduction because of a focus on individual control and lack of systemic context. 'Asset-based community development' (ABCD) is a strength-based tool that has been successfully used in the community sector to reveal the hidden assets of individuals and views communities as the starting point for change and abundant in capacity for sustainability interventions at the grassroots level. This paper will detail the development of a 'low carbon community' trial known as Livewell Yarra, a 'Living Lab' action research project funded by the CRC for Low Carbon Living in partnership with Curtin University, the City of Yarra and the Yarra Energy Foundation. This research uses asset mapping as a method to reveal the latent knowledge, interests and skills of Livewell participants and mobilise these strengths to meet carbon reduction goals. Participatory co-design is being used to enable participants to develop social innovations for carbon reduction in their local community which could take the form of community gardens, active transport or neighbourhood-based sharing initiatives. This paper provides an overview of the Livewell Yarra trial and its theoretical underpinnings and explores how asset-based approaches and social innovation can build capacity for groups to take individual and collective action to reduce carbon emissions for their own benefit and that of the wider community.*

Keywords: sustainability transitions; low carbon communities; asset-based community development; asset mapping; participatory co-design; social innovation;

Introduction

Livewell Yarra: background

Livewell Yarra is a 'Living Lab' action research project funded by the CRC for Low Carbon Living in partnership with Curtin University, the City of Yarra and the Yarra Energy Foundation. The project commenced in March 2015 and brings together academic researchers, local government and members of the community to build capacity for local action on carbon reduction.

The Living Lab concept originates from the work of William Mitchell at MIT and has spread around the world over the past decade with more than 400 labs as members of the umbrella organisation ENoLL (Salter & White 2013). Mitchell argued that a Living Lab represents a "user-centric research methodology for sensing, prototyping, validating and refining complex solutions" in emerging real-world contexts (Schumacher 2012).

The Living Lab model aligns with the participatory and action-oriented nature of the Livewell research project. Livewell Yarra has developed a self-help approach for participants to act to reduce their own and the broader community's emissions. Livewell Yarra is made up of local community participants working together to reduce carbon emissions in specific ways for themselves and others. Participants have a significant role in the work and decision-making involved in these activities.

Livewell Yarra uses a peer-support structure called 'decarb groups' comprised of six to twelve people who support each other to reduce their carbon footprints and set personal sustainability goals. The term 'decarb groups' is used here to describe self-organising support groups with the aim of reducing their carbon emissions. Decarb groups are comprised of family, friends, neighbours or work colleagues. The decarb groups will meet monthly for six months in the City of Yarra.

Photo 1: Livewell Yarra core team meeting at Carlton Library January 2015

Beyond Behaviour Change

Various government and civic interventions to facilitate sustainability transitions have been trialled in recent years. Government-led attempts at community level carbon reduction include the Australian Government funded energy saving initiative *Low Carbon Communities* (Combet & Dreyfus 2011), the *TravelSmart* mobility management program initiated in Western Australia (James 2002) and the *Low Carbon Communities Challenge* in England, Wales and Northern Ireland (Bulkeley & Fuller 2012).

A range of civil society-led approaches have sought to develop more systemic responses to the climate crisis including *Transition Towns* (Hopkins 2011) and Carbon Rationing Action Groups (Howell 2009) both starting in the UK, and the *Sustainability Street* neighbourhood-level program in Australia (Bandicoot 2004). These self-organising initiatives are bottom-up alternatives that mobilise local communities to reduce emissions, influence others around them and seek broader structural reform (Middlemiss & Parrish 2010).

Much of the early literature on carbon reduction programs was informed by the psychology of sustainable behaviour. Community-based social marketing (CBSM) approaches use psychological knowledge to identify behaviours to be promoted and the barriers to this activity to design behaviour change programs (McKenzie-Mohr 2000). Similar psychology-based approaches emphasise social norms, factors that influence individual behaviour and the cumulative effects of individual actions over time (Manning 2009).

A national review of environmental education in Australia viewed social marketing as having limited success in generating social change for sustainability because of its focus on individual control and lack of systemic context, as well as a reliance on experts and government funding (Tilbury et al. 2005). The review also notes that social marketing's behaviourist model has drawn criticism for 'disempowering citizens' (Robottom & Hart 1993) and points towards growing evidence in support of 'action-oriented approaches' (Jensen & Schnack 1997) which support critical reflection and self-selected participation in decision-making (Tilbury et al. 2005).

Further literature suggests that social dilemmas arise when trying to solve collective problems like carbon reduction through the lens of individual behaviour change and that efforts should be focused at the community level by engaging people in their role as active citizens through the context of 'low carbon communities' (Heiskanen *et al.*, 2010). This refocusing on active citizenship and community as the site for lowering carbon emissions emphasises the importance of localised changes and argues that individual action is more likely when embedded in collective action (Fudge *et al.,* 2010).

Low Carbon Communities
The term 'low carbon communities' has emerged since the mid-2000s to describe a range of government policy interventions and civil society-based low carbon energy transition projects that operate at the local level. There is growing recognition that complex issues like climate change require community-level action alongside supporting regulatory mechanisms, policy and technology innovation, for systemic low carbon transformations to be realised.

A Special Issue of *Energy Policy* 38 (2010) on 'Carbon Reduction at Community Scale' observes that low carbon community initiatives can make an important contribution to reducing carbon emissions by developing new models of social innovation, building technical skills and creating demand for low carbon alternatives (Mulugetta et al. 2010). In a book on the subject, *Low carbon communities: imaginative approaches to combating climate change locally,* Fudge et al. (2010) point out that addressing climate change is fundamentally a "challenge for governance" and a "challenge about scale" given the global nature of carbon emissions and the structural coupling of fossil fuels to human systems.

The failure of international climate policy and national reduction targets to adequately curb emissions, along with the growing importance of household energy demand, leads Fudge et al. (2010) to conclude that governance has become "stretched by the demands of climate change" and must reach upwards and downwards simultaneously, but that ultimately "communities must play a crucial part in the protection of the global commons." Communities also provide an important social proof that responses to climate change are readily accessible. As Peters et al. (2010) suggest, there is growing recognition that community action through local projects has the potential to "ground climate change policy" to the energy practices of everyday people thus giving it higher visibility than "top-down" approaches. Despite this acknowledgment, the literature on low carbon communities is influenced by prevailing theoretical frameworks like Sustainability Transitions research that valorise the 'scaling-up' of community action in transition processes and frame systemic change in a hierarchical conception of social space which contains the impact of community-level actions.

Sustainability Transitions

The emerging field of Sustainability Transitions research has developed a multi-disciplinary approach incorporating innovation theory, sociology and science and technology studies to investigate the dynamics of change in sociotechnical systems like energy, transportation and food. Transitions research posits that sociotechnical systems exhibit strong path-dependencies and undergo incremental change that is insufficient to address current sustainability challenges that instead require radical systems level transformation (Markard et al. 2012).

Sustainability transitions scholars have utilised and developed frameworks including the three-level model (Rip & Kemp 1998) comprised of niches, regimes and landscapes, often summarised as the multi-level perspective or MLP (Jørgensen 2012). Geels describes the multi-level perspective as a heuristic concept for explaining the complex dynamics of sociotechnical change (Geels 2002). The multi-level perspective is conceived as a nested hierarchy comprised at the micro-level of niches which are the site of radical innovations; the meso-level of regimes which provide stability through technological trajectories; and the macro-level of landscapes comprised of deep and slow-changing structural trends (Geels 2002).

Niches situated at the micro-level can incubate "radical novelties", provide locations for "learning processes" and "space to build the social networks which support innovations" (Geels 2002). Sustainability transitions rely on niches to provide 'protective spaces' for 'radical alternatives' to develop and become viable (Kemp et al. 1998). A growing body of 'strategic niche management' research examines how to 'replicate', 'scale-up' or 'translate' these practices into other contexts (Smith et al. 2010). The multi-level perspective is conceived as a nested hierarchy whereby niches are "strongly influenced" by the prevailing structural context laid out in regimes and landscapes and alignment between all three levels must occur for a regime shift to take place (Geels 2002).

Grassroots Innovation

From the lens of the multi-level perspective, niches are the most relevant site for the analysis of low carbon communities for they provide alternative spaces for 'experimentation' in sustainability transitions and have the potential to influence and inform the mainstream (Smith 2006). An emerging discourse on 'grassroots innovation' which embeds 'community action' in its analysis of changes at the niche level, provides an important development on the role of civil society actors as "agents of change in transition processes" (Seyfang & Haxeltine 2012), albeit framed by the multi-level perspective.

In the mid-2000s 'grassroots innovation' developed as a new theoretical approach in response to the UK Government's 'sustainable development strategy', to bridge the divide between 'technological innovation' with its emphasis on market-based solutions, and the community-led 'social economy' with its potential for systems change (Seyfang & Smith 2007). Grassroots innovations are seen as a "neglected site of innovation for sustainability" with a diversity of niche-based solutions that exist beyond the market economy (Seyfang & Smith 2007). Examples include a range of community projects and social enterprises like community energy, sustainable housing, worker-owned co-operatives and urban agriculture.

Grassroots innovations are a contested space as they involve 'framing' of sustainability interventions that can challenge or maintain existing inequality, social exclusion and hierarchies (Smith et al. 2014). Smith & Ely (2012) argue that questions of citizen participation are vitally important, and that grassroots innovation should create spaces that are "inclusive in its process, as well as the outputs" of sustainable development. In terms of framing, there is also a prevalent assumption in much of the grassroots innovation literature of the need to 'scale-up' projects, technologies and developments for sustainability transitions to be successful. Smith (2014) makes the point that 'inclusive innovation' is often as much about the 'form', 'depth' and 'scope' of the innovation process beyond developing scalable solutions.

Spatial Bias, Scale and Systemic Change

As with the Sustainability Transitions theory, much of the literature on grassroots innovation and low carbon communities is bounded by a hierarchical view of social space, scale and systemic change. The dominance of the three-level model and multi-level perspective results in a bias towards the analytical logic of sociotechnical systems comprised of micro, meso and macro levels. According to this logic, any innovation for sustainability endogenous to the social economy or community sector is by definition 'grassroots', 'niche' or 'bottom-up'. This spatial bias can be seen across a range of sustainability transitions literature and works to contain sites of participation to nested hierarchies with its inherent power relations and configuration of social space. Furthermore, this spatial bias reduces the capacity for civil society actors to have significant agency in transitions outside of market-based interventions.

The editorial to the special issue of *Energy Policy* 38 (2010) on 'Carbon Reduction at Community Scale' observes there are many community projects around the world achieving positive results "that if scaled-up would play a significant role in climate stabilisation efforts" (Mulugetta et al. 2010). In the same volume Middlemiss & Parrish (2010) suggest that despite the inherently weak position of grassroots initiatives in promoting change because they "rely on people with limited power, limited resources and limited ability to influence others", these 'bottom-up' initiatives can still have a role in creating low carbon communities.

The fields of political ecology and political geography have grappled with questions of scale in relation to theorising spatial relations of environmental conservation, social change and community development. Rangan & Kull (2008) point put that geographers have long argued that scale is 'relational' and 'socially constructed', not a nested hierarchy "but rather an outcome of material processes and power." Cameron & Hicks (2014) are also critical of hierarchical models of scale that situate power and influence at the 'top' or global level where it 'cascades' down to the levels below. They argue that because hierarchical scalar thinking has become 'common sense' there is a need to embrace 'flat ontology', a 'relational' form of thinking that can reveal "possibilities for action that are latent in any site or situation, including grassroots sites" (Cameron & Hicks 2014).

Community Economies

The Community Economies field represents a more relationally grounded approach to transition process than the Sustainability Transitions literature. Community Economies research is interested in 're-enacting' economy, 're-subjecting' communities, individuals and researchers in new worlds of possibility; and promoting collective action (Gibson-Graham & Roelvink 2013). This research is interested in addressing how Community Economies thinking

can assist Livewell participants in 'reframing' themselves as active citizens capable of reducing their own carbon emissions but also in sharing that knowledge and demonstrating practical alternatives that can mobilise others to take similar actions in communities around the world.

The Community Economies field deals with creating new representations of the economy by 'reframing' economic subjects (Gibson-Graham 2006) and placing these subjects as the starting point for change (Ireland and McKinnon 2013). Community Economies' researchers are concerned with 'performative practice' to 'reshape the world' through 'situated politics' that focus on enabling local communities to take 'site-specific' actions (Cameron & Hicks 2014). Community economies mirror aspects of the 'sharing economy' with its emphasis on peer-to-peer sharing of goods, skills and resources via social networks (Doctorow 2012). The Community economies field is also related to the 'social and solidarity economy' (SSE), a progressive movement comprised of a diverse mix of civil society actors and organisations working to unite economic justice, sustainability and increased democracy for local communities (Kawano et al. 2010).

One of the central tasks of Community Economies scholarship is to imagine alternative realms of possibility and wider roles for communities, researchers and the economy through the process of 'reframing'. Reframing has been used to develop alternative economic indicators to GDP that are linked to social and environmental wellbeing such as Gross National Happiness and the Happy Planet Index (Gibson-Graham et al. 2013). Reframing has also been used by a variety of social actors from slavery abolitionists and trade unionists to health and environmental campaigners. This research will apply Community Economies thinking to reframe 'community' as an important site of participation in sustainability transitions, one that is scale-free and readily accessible to Livewell Yarra participants based on existing strengths, replicable by other communities and abundant in possibilities for interventions to reduce carbon.

Social Innovation

Social innovation is a complementary approach to Community Economies that works with communities to collaboratively develop local solutions to a range of complex issues. It has gained widespread take-up in innovation policy, health promotion and climate change mitigation through the work of organisations like the Young Foundation and NESTA (Murray et al. 2010). Manzini & Rizzo (2011) document numerous examples of local projects that have used social innovation for 'sustainable everyday solutions' including Amplify (USA), Dott07 (UK) and Malmo Living Lab (Sweden).

In 2010 NESTA's Big Green Challenge (BGC) awarded £1 million in prize money to community–led projects designed to achieve "measurable carbon reduction" using social innovation (Cox et al. 2010). The BGC developed an approach called 'mass localism' to mobilise community resources and combine local action to national scale by developing 'distributed solutions' which rely less on: "scaling up 'best practice' models and creating more opportunities for communities to develop their own solutions and to learn from each other" (Bunt et al. 2010).

Manzini (2011) developed the 'SLOC scenario' ─ small, local, open, connected ─ to describe distributed sociotechnical systems at the intersection of the green, network and social

economies. The SLOC scenario provides a new lens to view sustainability transitions at the human scale of relationships, localities and communities. Networks afford small grassroots interventions new possibilities by creating a "mesh of connected local systems, the small scale of which makes them comprehensible and controllable by individuals and communities" (Manzini 2011). Some important dynamics at play here are the relationship between globalisation and localisation enabled by a globalised network society which affords Livewell Yarra unprecedented opportunities to prototype new solutions, adapt to local conditions and share learnings with other communities. Manzini (2013) describes these "small, diverse and connected" solutions as 'distributed systems' that are 'resilient' and 'error-friendly' due to their localised multiplicity so that the failure of one node cannot destroy the whole system. It is envisaged that a range of small and local interventions will be trialled for the Livewell Yarra research project at an individual and collective level.

Methodology

The methodologies being used in this project have been chosen and developed to match the ontology and epistemologies indicated in the theoretical framework. That is, they are participatory, community-based and empowering.

Asset-based Community Development (ABCD)

A key methodology for this research is asset-based community development (ABCD), a strength-based tool developed by Kretzmann & McKnight (1993) that mobilises a community's existing resources to find solutions to a range of social challenges. This research seeks to address whether asset-based community development can build capacity for Livewell participants to take actions that reduce their carbon emissions. ABCD has been used by a wide array of projects to reveal the hidden 'assets' of communities (Mathie & Cunningham 2003) and create location-specific solutions such as in the Latrobe Valley Community Partnering Project where four social enterprises were created by community participants (Cameron & Gibson 2005).

ABCD operates in stark contrast to prevailing 'needs-based' approaches to community development and instead works from the assumption that "effective community transformation starts with the strengths, skills, capacities, dreams and aspirations of local people" (Gibson & Cameron 2001). According to Kretzmann & McKnight (1993) ABCD is a method to release people's capacities, strengthen the individuals involved, and through this process strengthen the communities and institutions those individuals are connected with.

McKnight & Block (2011) suggest that ABCD enables new community possibilities to emerge by looking within the community to find an abundance of resources and then making these assets visible, connected and usable. Every community's assets are unique and multi-faceted and include individual capacities or 'gifts of the individual', citizen's associations whether cultural, religious or recreational, and formal institutions like local government, schools and private businesses (Kretzmann & McKnight 1993).

ABCD is also a self-help approach to community development that operates on the principle of "helping people to help themselves" and requires several conditions to be effective including

democratic skills, shared interests and increasing the capacity of participants to develop solutions to shared challenges (Green & Haines 2008). Kretzmann & McKnight's (1993) initial conception of assets has been expanded by Green & Haines (2008) to include seven forms of community capital: physical, human, social, financial, environmental, political and cultural that bring new dimensions to community development activities.

ABCD shares much in common with Appreciative Inquiry (AI), another strength-based method which focuses on "peak experiences and successes of the past" as motivators for individual and collective action (Mathie & Cunningham 2003). AI is grounded in theories of 'social constructionism' which argue that all knowledge in human systems is mutually agreed upon through dialogue; that action is predicated on language; and that change happens through the stories we tell about social reality (Cooperrider et al. 2008). This research will use aspects of AI such as 'unconditional positive questions' to catalyse change based on the belief that people are energised to act via the topics they focus attention on, as Ludema et al. (2006) contend: "human systems grow and construct their future realities in the direction of what they most persistently, actively, and collectively ask questions about."

Cunningham and Mathie (2002) from the Coady Institute have developed a set of guidelines to assist ABCD practitioners facilitate community development processes through the following stages: (1) "collecting stories"; (2) convening a core group; (3) asset mapping; (4) building a vision or "organising theme"; (5) "mobilising and linking assets"; and (6) leveraging assets external to the community sector. This approach provides a provisional framework to be trialled with Livewell participants in the peer-supported setting of 'decarb groups'.

It is envisaged that Livewell participants will be inducted into the ABCD process by initially sharing stories of success in reaching personal carbon reduction goals. Storytelling can become a powerful catalyst for 'inside-out' or community-led change when people are invited to participate in a change process as active citizens. Mathie & Cunningham (2003) argue that storytelling can surface "positive memories" while Fuller et al. (2006) contend that stories "revolve around local places and real people" and help "root asset mapping in a local reality." As stories of success are identified, this research will use asset mapping to reveal Livewell participants' knowledge, interests and skills and mobilise these assets for taking action on carbon reduction.

Asset-based approaches work when people believe they have something to offer their local community and come to see each other as the source of the solution to the challenges being addressed (Kretzmann et al. 1997). Livewell participants will be invited to map individual assets, referred to as gifts of the head (things I know about), heart (things I care about) and hands (skills I know how to do). These assets might take the form of knowledge about home energy efficiency, a passion for vegetarian cooking or hands-on skills in permaculture. These gifts can then become an anchor for individual and collective decision-making around specific actions and help focus goal-setting based on existing capacities.

With the personal assets of Livewell participants revealed the next stage will involve mapping relationships to local organisations, associations and institutions. The resulting asset maps or

capacity inventories will then be used to match Livewell participants' assets with opportunities to take actions that reduce carbon emissions, assist decarb groups, projects or the wider community. For example a project group might want to build self-watering garden beds and decide to leverage newly revealed connections to a subject-matter expert for construction advice, approach Council for grant funding and source surplus timber from a local merchant.

Photo 2: Example of an asset mapping exercise

Asset mapping has been used in variety of community development settings including as a planning tool to engage young people in Vancouver (Brown Ed. 2009) and by the NHS to assist in creating a network of volunteer health champions in England (Community health champions 2012). Asset mapping has also been deployed in conjunction with other complementary approaches like public participatory geographic information systems (PPGIS) to produce mapped data via technologies such as Google Maps to support rural development goals in the Lake Victoria region of Western Kenya (Martin et al. 2012).

This research is interested in finding out how asset maps can be used to reveal a 'system level' perspective on the interconnected resources that exist within a community for the purpose of enabling action on carbon reduction. Asset mapping is a participant-driven way to make the invisible visible, help local communities connect the dots in their neighbourhoods and reveal new pathways for active citizenship. Manzini (2015) observes that people's life projects are determined by their "enabling ecosystems" and community mapping projects provide a way to "design for visibility" and create new fields of possibility. It is hoped that as asset maps take shape during the course of this research they have the potential to reveal hidden connections and amplify the strengths of Livewell participants and the wider community.

Participatory Co-design
The Livewell project is also using participatory co-design, a human-centred design methodology to enable Livewell participants to take individual and collective action for carbon reduction. Human-centred design has been codified through various 'design thinking' toolkits which provide a practical framework for social innovation projects. The two main approaches

being utilised for this research are the 'D.School Bootcamp Manual' (Stanford D.School 2010) and 'HCD Toolkit' (IDEO 2014) both of which outline a process of design thinking in practice.

The co-design process will start by assembling design teams of self-selected Livewell participants, known as 'project groups', who demonstrate interest in starting projects which could take the form of a community garden, walking school bus or neighbour-based sharing scheme. Structured brainstorming is a common technique used to inspire 'divergent thinking' and surface a large quantity of ideas related to a specific design challenge (Brown and Wyatt 2010).

Co-design emphasises 'heuristic practice' (learning-by-doing) and following brainstorming the focus converges on a shortlist of ideas which are selected for the creation of simple paper-based prototypes using markers and paper. This 'rapid prototyping' is used to generate, test and refine ideas using emergent collaboration. Prototypes are then be reviewed for desirability, feasibility and viability, with the most robust turned into pilot projects.

Photo 3: Example of rapid prototyping

The results of rapid prototyping and any ensuing social innovations arising out of Livewell project groups will emerge following primary data collection in the second half of 2015. In terms of methodological rigour participatory co-design has become embedded in healthcare through the advent of 'citizen-led services' (Leadbeater 2004) and 'public sector innovation' (Bason 2010) in what John Thackara (2006) describes as the shift from "designing for to designing with." Co-design has also been used by a variety of local actors including the City of Greater Dandenong's development of its 'food strategy' (McEoin 2014) and by the Australian Government (DHS) under its reform agenda to improve the delivery of public services (Lenihan 2012).

Action research

This project will occur in four phases of action research, a cyclical process of planning, acting, observing and reflecting through an iterative spiral of practice (Kemmis & McTaggart 2005). Action research is a participatory and collaborative research method that can empower community groups to apply their knowledge and skills towards a common purpose (Koshy et al. 2010).

Asset Mapping (Plan)

The first 'plan' phase will use asset-based community development (ABCD) to reveal participants' latent strengths and build capacity to take action in the areas of carbon reduction. Asset mapping will identify the knowledge, interests and skills (gifts of the head, heart and hands) of Livewell participants through workshops during the course of the Livewell trial. It is envisaged that asset mapping will support participants to take carbon reduction actions, share information, provide encouragement and practical assistance.

Participatory Co-design (Act)

The second 'act' phase will involve the participatory co-design of projects that Livewell participants might develop in project groups through 'rapid prototyping' during the course of the trial with a view to implementation. As discussed, prototyping is an iterative approach to developing social innovations using basic materials (pen and paper) to quickly test, shortlist and refine ideas with limited upfront investment of human or financial capital.

Group Interviews (Observe)

The third 'observe' phase will use Most Significant Change interviews to reveal Livewell participants' experiences to date, document qualitative changes to participants' capacity to take action and reflect on the success of the Livewell Yarra approach and methodology. This phase also provides an opportunity to engage participants in the evaluation process, discover any challenges that have arisen and reveal opportunities for future learning and improvement. Most Significant Change (MSC) is a participatory evaluation method that will be used to gather stories of change from participants to reveal the personal impacts experienced as a result of their involvement in Livewell. The Most Significant Change interviews will explore any changes in participants' capacity to take action for carbon reduction and indicate what ongoing actions may be taken from their experience.

Review & Communicate (Reflect)

The fourth 'reflect' phase includes a review of the Livewell Yarra trial and analysis of the data collected to date. This phase of the action research process involves communication of findings through peer-reviewed journal publications, conference presentations and reports to project partners including the CRC for Low Carbon Living and Curtin University. These insights will then be used to refine the enactment of any further Livewell trials and continue the action research cycle.

Graph 1: 4-phase Action Research cycle
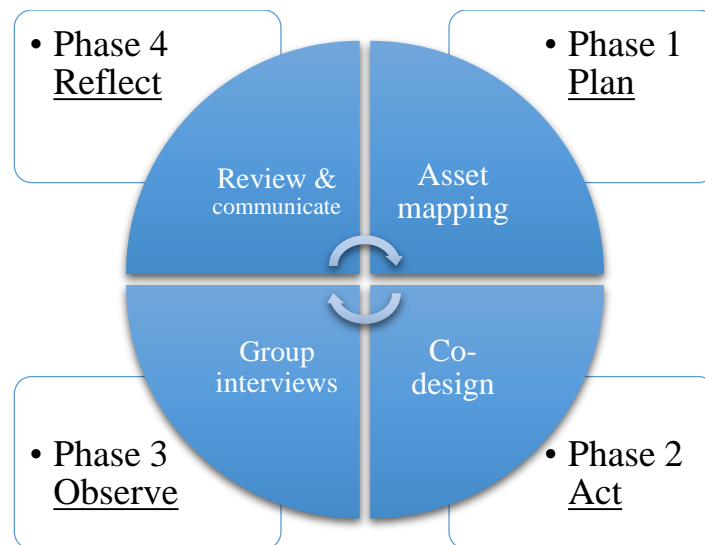
Conclusion

This paper has developed a theoretical and methodological framework for a new community-based carbon reduction project known as Livewell Yarra. It uses a participatory and action research approach in which participants seek to reduce their own and the broader community's carbon emissions. It rejects social marketing as being too individualistic for low carbon community trials and instead embraces strength-based approaches like asset-based community development that are focused on capacity-building. It addresses the 'spatial bias' in Sustainability Transitions and Grassroots Innovation literature with its hierarchical conceptions of social space by using 'flatter ontologies' like Community Economies and Social Innovation thinking to 'reframe' both participants as 'active citizens' and 'community' as an important site of participation in sustainability transitions that is scale-free and readily accessible to all community actors.

Methodologically it uses ABCD through asset mapping to reveal the interconnected resources that exist within the Livewell Yarra participant community for the purpose of enabling action on carbon reduction. Participatory co-design is also being utilised to enable the development and testing of social innovations by Livewell 'project groups' using 'rapid prototyping'. Primary data collection is expected to commence from July 2015 through asset mapping workshops and following this Livewell Yarra participants will be invited to take part in co-design workshops to prototype community-led projects for carbon reduction. Most Significant Change interviews will be conducted towards the end of 2015 to evaluate the greatest impacts experienced by Livewell participants based on their involvement in the project. The results of the Livewell Yarra research project will be documented and evaluated in future publications.

Acknowledgement

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