8 Conclusion

8.1 Introduction

This Ph.D research has taken place against a background of fluctuating political, scientific and technological circumstances that have influenced responses to climate change in Australia. Politically, Federal governments have struggled to develop coherent climate and energy policy, including both implementing and then repealing a price on carbon (Chubb 2014; O'Gorman and Jotzo 2014). Distributed renewable energy in the form of rooftop solar has been adopted by households at a rate higher than anywhere else in the world, undermining the structure of the existing domestic energy provision system (Mountain and Szuster 2014). Australian school children have joined a global movement leading street protests against government inaction on climate change (Zhou 2018). The development of what could be the nation's largest coal mine in the Galilee Basin in Queensland was at the centre of fierce debate (Beresford 2018). The country registered record summer temperatures and increased incidences of extreme weather events, including prolonged droughts, floods and storm surges and culminating in the Black Summer bushfires across southern and eastern Australia in 2019-20 (Steffen et al. 2019; Davey and Sarre 2020). Over this time, the average global temperatures continued to rise and projected pathways to keep that temperature increase below 2 degrees Celsius by the end of the century grew increasingly unlikely (Raftery et al. 2017).

For Australian local governments, this shifting policy and climatic context has presented challenges and opportunities. At times, local governments have benefitted from strong Federal and state policy allowing them to set ambitious community-based greenhouse gas emissions targets knowing that their own governance activities were aligned and would be supported by those at higher levels of government (City of Port Phillip 2007; City of Moonee Valley 2010). At other times, local governments have been left as the 'last government standing' with Federal and state governments taking little action to reduce emissions or switching their attention to climate adaptation issues (Kennedy et al. 2010; Talberg et al. 2013).

As the target of local government climate governance practices, households have also been subject to changing conditions that have influenced the contribution of their everyday practices to emissions production and also introduced new practices that reduce emissions and re-shape their relationship with other actors. The widespread adoption of rooftop solar has shaped how households consume power and, as a consequence, their relationship with domestic energy providers (Haines and McConnell 2013; Hill 2014). It has also influenced how households engage with local governments seeking to reduce community-based emissions. Despite growing awareness of the dangers of climate change and the demand for greater action, households have responded more to pro-individual

framings that emphasis personal benefits, such as financial gain, in order to reduce their personal emissions (Meiklejohn et al. 2018).

Against these shifting contexts, this Ph.D research has sought to answer a primary research question:

Can practice theory effectively re-craft Australian local government community engagement approaches in response to climate change?

In focusing on governance activities and their relationship to the emissions producing activities of other actors (in this case, households), I drew on theoretical frameworks that capture the complexity of climate change as a governance challenge and offer a critical lens to assess the efficacy of policies and interventions that seek to reshape everyday practices. Understanding climate change as a super wicked problem frames the complexities associated with climate change as having four characteristics: there is a limited time to respond, that those seeking solutions are also contributing to its causes, there is weak or non-existent governance and that future benefits gained from acting are discounted (Levin et al. 2007). These complexities require a governance approach capable of examining distinct activities undertaken both by governance actors (in this case, Australian local governments) and their target audiences, as well as the larger socio-technical systems within which they exist.

This research contributes to what has been an historical under-examination of governance practices from many practice theorists. My research responds to debates between practice theorists and those drawing on socio-technical transitions theories, where practice theory is argued as being insufficient to address the challenges presented by large-scale systemic change (Geels 2011). I employ Watson's (2012) systems of practice to overcome these critiques. In the final chapter, I combine systems of practice with the transition management cycle to map a possible pathway for local governments seeking a structured, reflexive approach to climate governance that draws on the strengths of both practice and transition theories.

8.2 Contributions

This research began with a literature review of theoretical frameworks detailing complexity challenges associated with governing climate change. In particular, I drew upon Levin et al.'s (2012) under-utilised concept of super wicked problems, itself an extension of Rittel and Webber's (1973) wicked problems. Super wicked problems framing usefully identifies four complexity factors particular to climate change governance: there is a limited time to respond, solutions are drafted by those who have contributed to the creation of the problem, solutions development is hampered by weak governance and future benefits gained from acting now, are discounted. These factors not only

helped provide a clearer picture of the complexities associated with climate governance, but they also emerged time and again during the research. For example, the limited time to respond aligns directly with the demands of the climate emergency movement to accelerate government responses (Spratt and Sutton 2008) and local governments are constrained in their ability to meet their climate ambitions from being the lowest tier of government in Australia's federal system (Dowling et al. 2013; Pillora 2011). As the use of super wicked problem framing has been limited (Lazarus 2008) my contribution has been to apply it to identify complexities specific to a governance practice – community engagement – and assess existing and proposed interventions using the associated solutions criteria.

Employing the super wicked problems framing informed my research design by identifying the need for a theoretical approach that recognise and was capable of analysing complexity: practice theory. I examined the field of practice theory and established that I would draw on Shove et al.'s (2012) conceptualisation of practices as being comprised of meanings, materials and competencies, and that practices are grouped together in looser or tighter configurations (bundles or complexes). I noted that Watson (2012) expands this concept to form systems of practice which would be the subject of examination in greater detail in Chapter 7. Watson's (2012) concept also represented a bridge between practice theory and transition theory, by placing practices in transition of systems, such as *velomobility*. I noted the usefulness of this proposition as a way for local governments to consider the structured processes of transition management to drive broader systemic change, also explored in Chapter 7.

In Chapter 4, I set out the practices under examination: local government community engagement practices designed to reduce household-based greenhouse gas emissions (Meiklejohn et al. 2021). This chapter drew on interviews with 29 local government practitioners and analysis of 37 local government climate change strategies. The strategies and interviewees were selected through a snow-balling recruitment process building from my personal experience as the coordinator of a local government network in Melbourne, Victoria. Drawing on Shove's (2012) construction of practices and practice bundles, I identified community engagement as a bundle of intertwined but distinct practices: recruitment to a program, engagement with program participants and evaluation of both the program process and its outcomes. Through this analysis I draw attention to three weaknesses in current practice: financial and resource constraints resulting in low-cost versions of the three practices, an adherence to behaviour change methodologies and a reliance on climate change as a motivation for individuals to alter their everyday practices. I then applied Spurling et al.'s (2013) approach of re-crafting, re-integrating and substituting practices to suggest re-configurations of community engagement practices to improve their effectiveness. This pointed to the need for further research to better understand the relationships between local government climate governance practices and the performance of everyday household practices. My original contribution has been to

address the under-examination of governance practices by practice theory by shifting the focus squarely onto the activities of practitioners performing community engagement practices. Rather than governance sitting within the meanings, materials or competencies of household practices, I have sought to gain a clearer picture of governance practices to better understand their relationship with household practices.

This dynamic relationship between governance and household practices is at the heart of Chapter 5, which explores how both household practices and local government community engagement have been influenced by the rise of a new technology - rooftop solar – and the creation of a new practice: distributed renewable energy production (Meiklejohn et al. 2018). The relationship between local government and households is analysed through the lens of this new practice and its implications. As per Chapter 4, the research for this chapter was based upon interviews with the same 29 local government practitioners and analysis of the same 37 local government climate change strategies.

For local governments, previous meanings attached to community engagement practices (notably, the positioning of climate change as a motivation for pro-social action by individuals) is shown to have been undermined by the pro-individual motivations that households attach to the purchase of rooftop solar (notably, financial benefit from reduced energy costs). As the latter meanings have proved to be an integral part of the successful, widespread adoption of rooftop solar, so local governments have been forced to adjust their community engagement practices taking account of these new meanings. I suggest that local governments can explore new forms of community engagement based on both pro-individual and pro-social motivations. In the first instance, this could include employing a pro-individual motivation to encourage the adoption of aligned technologies, such as battery storage and electric vehicles. In the second, pro-social motivations could build off the broad acceptance of renewable energy to support collective-based interventions, such as community energy.

My original contribution in this chapter is through further examination of governance practices and, in particular, that these practices do not exist in isolation. Governance practices, such as community engagement, are influenced by their interaction with other practices, in this case the adoption of distributed renewable energy production by households. There exists opportunity for further examination of this new practice and how it integrates with other energy consuming household practices.

Responding to the wider context influencing local government climate governance practices, this research was influenced by and sought to examine the more recent emergence of a new movement: the climate emergency (Chapter 6). To understand the origins of the climate emergency framing and its implications for local government climate governance practices, I analysed four primary documents providing guidance, produced by activists and early mover councils in Australia. This guidance for local governments highlights three common principles of climate emergency governance. The first is more rapid reduction in community-based greenhouse gas emissions than has

previously been the case. The second is the development of new roles for the community, including as advocates to other tiers of government and as ‘co-managers’ of the local climate emergency response. The third is a need to embed climate emergency considerations through all local government practices, including a recognition that councils will need to collaborate more with relevant external stakeholders. I then drew on analysis of 95 council motions declaring, acknowledging or recognising a climate emergency and 25 local government strategies to enact this declaration.

From this analysis, I find that whether consciously or not, local governments do follow these principles though I note variability between councils on the degree of additional action required. This is expressed in emissions reduction targets, which range from achieving net zero community emissions by 2030 to hitting the same target by 2050. In analysis of the strategies, I note a shift away from an emphasis on the role of the individual (a central plank in earlier strategies) to policies and interventions addressing systemic issues. However, I also find that there is little evidence of new forms of climate governance emerging in the strategies and question whether business-as-usual governance will achieve desired climate emergency outcomes.

Building on the challenges and issues presented by the climate emergency movement for local government identified in Chapter 6, I develop the argument in Chapter 7 that local governments declaring a climate emergency require new governance frameworks to achieve their substantially increased emissions reduction ambitions. Noting that climate emergency local governments have shifted their focus to systemic issues, I draw on Watson’s (2012) systems of practice and position it within the transition management cycle (Loorbach 2007). This bridging of practice theory and transition theory is designed to capture the strengths of both, zooming into specific governance practices and out to understand how they influence relevant systemic practices. To test these ideas, I explore how such a process might be applied to the Australian energy provision system. I note that local governments have a limited governance role in this system but have been influential in helping shift the system away from a reliance on fossil fuels towards renewable energy. I focus on the preparatory phase of the transition management cycle, including identifying and structuring the problem, creating a transition arena and envisioning a future form of the domestic energy provision system. I find that local governments seeking to achieve a localised energy transition to meet their climate emergency emissions reduction ambitions will need to engage more with the energy provision system. This will require the development of new collaborations (and potential conflict) with actors within the system and would reframe our understanding of what it means to be a local government responding effectively to climate change, going beyond traditional policies and programs to drive broader systemic change. My contribution in this chapter is the development of a governance framework drawing on elements of practice theory and transition management, continuing a broader body of research that has sought alignment between the two approaches (Rauschmayer et al. 2015). Further development is required to assess how this might work in practice for local governments.

8.3 Further Research

Returning to the central thesis research question - c*an practice theory effectively re-craft Australian local government community engagement approaches in response to climate change?* – I have demonstrated that applying a practice lens to governance, in this case local government community engagement practices, provides a more sophisticated framework for examining how everyday household practices are influenced by policies and programs. Further research is warranted over the longer term, where the dynamic relationship between household practices and governance practices can be more fully examined.

This research drew attention to the shaping of local government community engagement practices by other climate governance and internal process practices highlighting why councils have adopted specific forms of community engagement. The weaknesses identified in my analysis of community engagement practices point to further research opportunities. While this thesis has suggested a range of practice-based interventions (e.g. grouping audiences by shared practice rather than demographics), these remain, at this stage, untested. Exploring how these might be implemented and what else practice theory can contribute to the shaping of governance practices (e.g. consideration of qualitative evaluation methods typical of practice theory research, such as focus groups and interviews) opens an exciting field of exploration.

In addition, there is an opportunity for further research on precisely how local government climate governance practices, such as community engagement, interact with household practices. While I have identified and analysed these relationships in this thesis, there remains an opportunity for deeper, qualitative work. Missing here is the voice of the household. While practice theory has a strong track record in examining specific household practices (Judson and Maller 2014; Nicholls and Strengers 2015; Browne 2016), there is a need for researching precisely what happens within households in response to local government practices. At present, local government practitioners lack this knowledge, hampered by inadequate evaluation practices (Meiklejohn et al. 2021). In this vein, there is also a need for additional research on other climate governance practices, both in terms of their influence on household practices (such as urban planning regulations, the provision of sustainable transport infrastructure and the impact of advocacy to higher tiers of government), as well as how they relate to other practices performed within local government. Watson's (2012) systems of practice proves valuable in addressing the critiques of transition theorists that practice theory is ill-equipped as a frame for considering large-scale socio-technical systems and their transformations (Geels 2011). By considering transitions as an outcome of changes in practices and the relationships between them, it has been possible to create a framework combining the strengths of both practice and transition theories. This includes the ability to consider specific practices, how they interact with one another,

including both within bundles of governance practices as well as broader systems of practice, such as domestic energy provision.

Using Watson's (2012) formulation does raise the question of whether climate governance practices themselves can be considered a system of practice. While in this thesis, I follow Watson's (2012) examples of *velomobility* and *automobility*, in which governance practices form part of these systems of practice (in some instances, shared between competing systems), governance itself could be viewed as a system of practice. In this thesis' example, Australian local government climate governance practices are positioned within larger systems, including those performed by state and federal governments as well as the influence of global compacts, such as the Conference of Parties and international local government networks (UNFCC 2015; Lee and van de Meene 2012).

Watson's (2012) framework is in alignment with approaches in practice theory in which researchers and allies in government face outwards to understand and attempt to shape practices performed by others and the systems in which they exist. As demonstrated in this thesis with the example of distributed renewable energy production, I have demonstrated how these 'external' practices can exert influence over governance practices. At the systemic level, it is possible to consider the influence of industry actors on government policy (Chubb 2014; Nelson 2015) and, consequently, the further influence on policies engaging these actors. This flow of influences between practices and systems, between governments and others is potentially constant and shifting continually. This is an area that demands further research to understand whether it is useful to think of a climate governance system of practice and its interactions with other relevant systems.

The emergence of the climate emergency movement during this research also indicates opportunities for further research. While I have been able to identify changes in strategic practices performed by local governments and the likely implications for climate governance practices, research is required to examine if and how this plays out. Further interviews with practitioners would provide a better understanding of how these practices are changing as a result of declaring a climate emergency. Work with community groups and members could investigate whether the new roles of advocacy and co-management of the local response, identified in the climate emergency guidance, motions and strategies are enacted. The climate emergency also has implications for the use of transition management as a sense of urgency about the need to act is missing from its formulation. The long lead times to develop coalitions and transition arenas is recognised as a potential weakness in transition management when viewed from a perspective of a climate emergency.

While this research began with an interest in examining local government community engagement practices and how to improve them, it has evolved in response to my reading of the literature and in response to shifting dynamics in the wider context within which local governments are operating. It has required me to be responsive to emerging trends, like the dramatic rise in roof-top solar and the rapid growth in the climate emergency movement witnessed across the duration of my research which

began in 2013. The need for an increasingly urgent response to climate change suggests that local governments need a clearer understanding of what roles they currently play and what roles they might more effectively play in the future. Practice theory's emphasis on relationships and dynamics to understand and explain processes of social change, also highlights the need for local governments to better understand the complexities of practice change and think more strategically about the who, how and what needs to be involved in effectively designing policies and interventions responding to climate change. This more sophisticated understanding of everyday practices to inform governance practices might assist in driving local transitions within relevant systems of practice. The shifts in political, scientific and technological circumstances that have taken place during the life of this research project (2013-2021) show that local government climate governance practices and how they are performed is never stable. This requires not only nimble responses but also critical reflection on what kind of transition is desired and how this can be managed to successfully deliver effective solutions to the super wicked problem of climate change.